



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

32101 064789215

In Berkshire Fields



Walter Prichard Eaton
Digitized by Google

3725
.73
.349

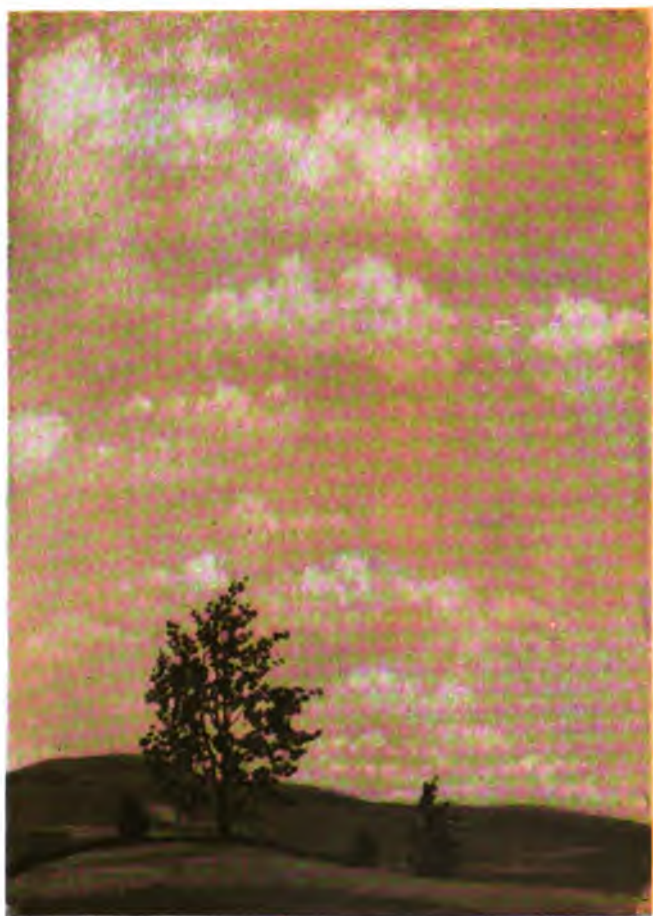
ANNIVERSARY

Library of



Princeton University.

Simon Memorial Fund.



In Berkshire Fields



Winter is richer in color masses than spring or summer

In Berkshire Fields

By

WALTER PRICHARD EATON

Illustrated by

WALTER KING STONE



HARPER & BROTHERS PUBLISHERS
NEW YORK AND LONDON

IN BERKSHIRE FIELDS

Copyright, 1920, by Harper & Brothers
Printed in the United States of America
Published September, 1920

G-U

TO
WILLIAM HAMILTON GIBSON

(RECAP)

456952

CONTENTS

	PAGE
FOREWORD	xi
LANDLORD TO THE BIRDS	I
JIM CROW	27
THE CHEERFUL CHICKADEE	55
THE MENACE FROM ABOVE	77
BY INLAND WATERS	100
POKING AROUND FOR BIRDS' NESTS	122
THE QUEEN OF THE SWAMP	151
FORGOTTEN ROADS	158
FROM A BERKSHIRE CABIN	170
LITTLE FOLKS THAT GNAW	185
THE WAYS OF THE WOODCHUCK	212
FOXES AND OTHER NEIGHBORS	234
IN PRAISE OF TREES	262
ENJOYING THE INFLUENZA	285
ADVENTURES WITH AN AX	291
WEEDS ABOVE THE SNOW	301

ILLUSTRATIONS

WINTER IS RICHER IN COLOR MASSES THAN SPRING OR SUMMER	<i>Frontispiece</i>	
A RAIN-POOL BATH AMONG THE ROCKS	<i>Page</i>	1
TREE-SPARROWS FEEDING IN THE SNOW	<i>Facing p.</i>	4
CHICKADEES IN A JAPANESE PRINT	"	10
JENNIE WREN BRINGS SCORES OF GRUBS TO THE NEST	<i>Page</i>	13
THE MARTIN-HOUSE	"	19
THE PLAY OF THE CHIMNEY-SWIFTS AT TWILIGHT	"	21
TAPPING AWAY AT A FROZEN BIT OF SUET	<i>Facing p.</i>	22
A PHOEBE NESTING UNDER THE PORCH EAVES	"	24
WINTER OR SUMMER, THE CROW HAS HIS PLACE IN THE PROSPECT	<i>Page</i>	27
A FLEDGLING CROW	"	29
CRYING INCESSANTLY FOR FOOD	"	31
HE WOULD FOLLOW UP THE ROWS OF FRESH-TURNED EARTH	"	33
HIS LIKING FOR BRIGHT OBJECTS IS SOMETIMES A NUISANCE	"	35
SINKING HIS CLAWS INTO THE WOOL AND CAWING DELIGHT- EDLY	"	37
A GREAT HORNED OWL FLYING LOW IN THE TREES	"	47
THE CROW IN TURN IS ATTACKED BY SMALLER BIRDS	<i>Facing p.</i>	50
WINGING CHEERILY AGAINST THE WHITENED LANDSCAPE	<i>Page</i>	55
OTHER BIRDS GO SOUTH IN WINTER—THE CHICKADEE REMAINS	"	57
THE FIRST SNOWFALL BRINGS THE CHICKADEE TO OUR WINDOWS	"	59
THE CHICKADEE, OR BLACK-CAPPED TITMOUSE	"	61
HE MAKES LIGHT OF THE RIGORS OF WINTER	"	63
ON BLACKBERRY STALKS BY GRAY STONE WALL THE CHICKA- DEES ARE CONSPICUOUS OBJECTS	"	67

PERCHED ON THE END OF A BARE TWIG AS IN A JAPANESE PRINT	Page	69
IN THE HUSHED NAVES OF THE FOREST	"	71
IN SEARCH OF FOOD IN A WINTER CORN-FIELD	"	75
THE DUCK-HAWK NESTS ON THE LEDGES OF ROCK PRECIPICES	"	83
THE RED-TAILED HAWK DROPPING FROM HIS AERIAL PATHWAY	"	85
THE SPARROW-HAWK IS A PRETTY LITTLE FALCON THAT DOES MORE GOOD THAN HARM	"	87
THE MARSH-HAWK	"	89
THE GREAT HORNED OWL, OR "SIX-HOOTER"	"	93
THE SNOWY OWL	"	95
THE DIM FORM OF A SCREECH-OWL OUTLINED AGAINST THE TWILIGHT SKY	<i>Facing p.</i>	98
YOU MIGHT HAVE SUPPOSED THE MERGANSERS WERE MERELY PLAYING A GAME—COASTING DOWN THE CURRENT	"	102
WOOD-DUCKS ARE FEWER IN NUMBER THAN THEY USED TO BE	Page	105
THE BLACK DUCK IS THE DUCK MOST OFTEN SEEN ON INLAND WATERS	"	108
THE GREAT BLUE HERON SUGGESTS A JAPANESE PRINT	"	110
THE LITTLE GREEN HERON HAS SHOWN A STURDY ABILITY TO LOOK AFTER HIMSELF	<i>Facing p.</i>	112
EVERY COUNTRY BOY KNOWS THE SPOTTED SANDPIPER	Page	116
THE KINGFISHER IS EXTREMELY DECORATIVE AS HE PERCHES HIGH OVER POND OR RIVER	"	119
HOUSES AND BARNs ATTRACT THE WRENS AND SWALLOWS	"	127
THE ORCHARD HAUNTS OF THE WOODPECKER IN SPRING	"	133
SOUNDING HIS SWEET, SAD, ANDANTE CALL TO HIS MATE	"	143
THE BLACKBIRDS MAKE LIVELY THE AIR OVER THE SEDGY BORDERS OF STREAMS AND PONDS	"	145
THE COTTONTAIL RABBIT BENEATH A TENT OF SWAMP SHRUBBERY	"	187
A VARYING HARE UNDER HIS SNOW-LADEN, FAIRY ROOF	"	191
THE FAMILIAR, AGGRESSIVE, FEARLESS, QUARRELSOME RED SQUIRREL	"	195
A CHIPMUNK WAITING EXPECTANTLY FOR BREAKFAST	"	199

THE WOODCHUCK IS THE LARGEST AND LAZIEST OF COMMON RODENTS	Page	201
THE SHORT-TAILED, BURROWING MICE EAT CORN AND OTHER GRAIN IN THE SHOCK	"	203
THE PORCUPINE IS ARMORED AGAINST ALL ENEMIES . . .	"	207
SITTING ON HIS HAUNCHES IN A FIELD OF DAISIES . . .	"	215
HIS BURROW USUALLY COMMANDS A WIDE PROSPECT . . .	"	219
YOU WILL SEE A SHREWD FACE AND FAT BODY UP ON THE WALL A TROPHY OF THE CHASE	"	221
SUNNING HIMSELF IN LAZY CONTEMPLATION OF THE LAND- SCAPE	"	227
A FAVORITE HAUNT IS THE NETWORK OF ROOTS AT THE BASE OF A HUGE TREE	"	229
A DENIZEN OF THE DEEP WOODS	"	231
GREEN MEADOWS, DAISY-STARRED, INVITE THE WOODCHUCK FROM HIS LAIR	Facing p.	232
REYNARD SPRINGS ON A MOUSE	"	238
A MIDNIGHT VIGIL	Page	240
A DASH ACROSS THE OPEN BY AN AIR-LINE TRACK . . .	"	244
THE WILDCAT IS THE SHYEST ANIMAL OF OUR EASTERN FOR- ESTS, AND YET THE FIERCEST AND MOST FORMIDABLE . .	"	248
THE OTTER WILL FRISK ON THE RIVER-BANK LIKE A PUPPY IF HE IS NOT FRIGHTENED, THE SKUNK IS QUITE INOFFEN- SIVE AND HARMLESS	Facing p.	252
"	"	254
THE LITTLE WEASEL IS A CUNNING AND ELUSIVE MARAUDER .	"	256
TREES ARE THE INSTINCTIVE REFUGE OF THE 'COON . . .	Page	258
THE MASSIVE TRUNK OF A HORNBEAM AGAINST THE RED AND GRAY OF A DISTANT SNOWY MOUNTAIN	"	265
THE SYCAMORE GAINS A WINTER CHARM OVER OTHER TREES BECAUSE OF ITS MOTTLED BARK	"	267
SLENDER OLIVE POPLARS RISING TO FOREST HEIGHT CROWDED FROM BEHIND BY THE HEMLOCKS OF THE SWAMP . . .	"	270
A PINE BEFITS A MOUNTAINOUS LANDSCAPE, A PLACE OF ROCKS AND WINDY SWEEPS	Facing p.	276
IN WINTER THE CONTRAST BETWEEN THE LOWER IRREGULAR APPLE-TREES AND THE GREEN PINES IS CHARMING . .	Page	277

THROUGH THE CURLING SPRAY OF THE WEED-TOPS SOME WHITE PATH INTO THE QUIETUDE INVITES YOUR FEET	Page 278
ALONG THE BACK ROAD A DOUBLE ROW OF CEDARS MARCH ALONG BESIDE YOU AS YOU TRAMP	" 280
WHITE BIRCHES ON THE CREST OF THE RIDGE SHOOTING THEIR SLENDERNESS UPWARD	Facing p. 280
THE GREEN DOMED CROWN OF ELM RISING STATELY OUT OF CLUSTERED FOLIAGE	" 282
MY PASTURE CLIMBS STEEPLY TO THE FOREST WITH EVER- INCREASING ABRUPTNESS	" 302
A YOUNG MOON HOLDING IN ITS CRESENT THE VAGUE WRAITH OF THE FULL SPHERE	Page 307

FOREWORD

PRE-EMINENT in the field of so-called nature-writing is, and should be, the scientific naturalist or botanist, when he can bring to his task literary grace and charm. Nothing is more important than an addition to human knowledge, even when its immediate, or even its most remotely conceivable, bearing seems trivial enough. No laughter is so much like the crackling of thorns under a pot as that excited sometimes in certain people by the spectacle of a patient scientist pursuing his minutiae. Yet there are many among those who write for whom biological or botanical science is, and must remain, impossible of attainment, and yet who find a delight and refreshment in wandering among the materials of such science, even, perhaps, in speculating, now and then, on their own account, from their own observed data. This proceeding adds nothing to the sum total of human knowledge, but it stimulates in its practitioners a certain kindly curiosity and, like golf, it at least keeps them out in the open air. The present writer scarcely needs to confess himself such a one. Nothing is farther from his intention, as nothing is farther from his ability, than to attempt a natural history, even of the Berkshire Hills which surround his house and too insistently invite his feet to wander. Yet it is just because he has found so much delight and stimulation, amid a life other-

wise mainly occupied, in the doubtless unscientific and haphazard observation of woodland folk and winged, in the personalities of trees and the retreats of wild flowers, that he has been moved to think such avocation cannot be wholly evil, and that the scientists who deal with lovely or fascinating sensuous things must expect those lovely or fascinating things to be approached from other angles than theirs. One who is not a scientist does not deliberately toy with a 40,000-volt high-potential current. But you or I may, I trust, explore for the *Cypripedium spectabile* in its swamp, or track a weasel over its snowy rocks, in a spirit of pure adventure, in the quest, let us say, for the essential flavor of the wilderness, which may come in the odor of a flower or the note of a bird or the imaginative realization on our part of how the world looked last night to the animal which tracked warily here, searching for its prey.

In such a spirit, at any rate, these chapters have been written, records of sometimes purposeful but more often idle wanderings through the fields and woods, beside the streams and over the steep slopes, of the Berkshire Hills, with here and there a record or a memory of wandering elsewhere. Those of us who live in these hills, wisely, the year through, and know their rugged winter moods as well as their softer summer aspect, love the Berkshires less for their softness than their wildness, less for their valleys than their heights, less for their well-groomed towns than their half-abandoned upland hamlets and their miles of forest where to-day moose and wildcat roam, and even there is recent evidence of a

timber-wolf. It is the writer's hope—a modest one, surely—that other lovers of that wildness which has largely disappeared from our Eastern countryside, and which is such a refreshment to the spirit when we can get back to it, will be glad, at least, to know that the foxes still bark and the deer browse up here in our hills, and each year, in Berkshire County, we kill almost a score of wildcats.

Many of the chapters that follow have appeared in *Harper's Magazine*, from which they are reprinted with some additions. The editors of *The Atlantic Monthly*, *The New Republic*, and *The Boston Transcript* have kindly given their permission, also, for the inclusion of certain other chapters originally printed in those publications. The author regrets that the absence of Mr. Stone with the Y. M. C. A. in France has prevented his co-operation in selecting and arranging the illustrations.

W. P. E.

TWIN FIRES,
SHEFFIELD, MASSACHUSETTS, 1920.



In Berkshire Fields



A rain-pool bath among the rocks

IN BERKSHIRE FIELDS

LANDLORD TO THE BIRDS

I WONDER if any reader of this chapter was ever present when a state legislature considered the question of licensing cats. If so, he must have been impressed anew with several facts, one of them being that in spite of all the information disseminated by the ornithological and biological bureaus of the Federal and state governments, and by other ornithologists, regarding the economic value of our common birds, the average man is still blind to the importance of the subject. Of course, one doesn't expect a state legislator to be swayed by sentiment; one expects him, rather, to yield to economic pressure! Yet when the question of establishing a cat license, as we now have a dog

license, comes up, the only economic argument your average legislator can see is on the other side. The cats catch rats in the farmer's barn. We mustn't do anything to lose the rural vote! The congressional wag makes a funny speech about pretty pussy and the old maids coming down-town to get their licenses, the legislative assembly titillates with mirth, and the bill is laid on the table. It would all be rather amusing if it weren't so serious.

How serious it is a very brief survey of the figures will show. The figures, too, may well be taken from reports by Edward Howe Forbush, State Ornithologist of Massachusetts, whose own legislature has tabled a bill to license cats, with the usual display of Sunday-supplement humor (but the fight is not yet over). Dr. Forbush bases his figures on the reports of over a hundred observers throughout the state. "If we assume," he says, "that the average cat on the farm kills but ten birds in a year, and that there are but two cats on each farm in Massachusetts, we have in round numbers 70,000 cats, killing 700,000 birds annually." As a matter of fact, there are many more than 70,000 cats in Massachusetts, even on the farms, and those which live near the open, even in the suburbs, take a toll of bird life that is probably in excess of ten birds a year. A cat belonging to a neighbor of mine, not a farm cat, but a pampered house puss, brought twenty-six birds to the veranda last summer, and I have to wage a constant warfare on half a dozen sleek, well-fed house cats which daily try to catch birds in my garden. Doc-

tor Forbush is too careful and conservative. The toll of bird life due to farm cats alone in the single state of Massachusetts is probably in excess of 1,000,000 a year. To this huge total we must probably add another 1,000,000 for the toll taken by the domestic pets and stray cats and their descendants, now gone wild. Few people have any conception of the number of cats gone wild there are in our woods.

Now, undoubtedly, if cats were licensed as dogs are, and men appointed to dispose of the strays, there would be a great and immediate diminution of the feline population, still more noticeable in a second generation, for the females would pay a higher fee. The cats which remained would be those valued and cared for as pets (and if a person isn't willing to pay one or two dollars a year for his or her pet, his attachment isn't very strong) or else those cats valuable as destroyers of rodents. The stray cat, that has to hunt for a living, would be eliminated, as would the present excess of half-stray house and barn cats. There would be little hardship to the farmer, because a good barn cat earns its license fee; and, besides, very few cats are as effective as traps, anyhow, as careful experiments have again and again proved. Finally, an added revenue would accrue to the state.

But why go to all this trouble merely to save 2,000,000 birds a year? asks the sentimental cat-lover, who would rather have the cat than the blue-birds and song-sparrows, because he (or she) cannot pat a bluebird, nor dangle a string before its young.

The answer is, because the birds help to maintain

the balance in nature between destructive insects and growing things, between weeds and flowers, and any serious diminution in our bird population means a serious increase in the ranks of our insect and vegetable foes. The birds are among our best and most valuable friends, while the cat, artificially bred and introduced, does not belong to the natural scheme of things. A bluebird, a barn-swallow, a screech-owl, even a so-called "hen-hawk" (which scarcely touches hens at all) has a definite economic value, and its protection by man from cats and other hunters, on four legs or two, from storms and starvation, is as useful, and some day we shall realize as necessary, as catching rats in the barn or spraying the potato-vines. Indeed, if every potato-field could harbor a bevy of quail (and it could if we had not been such game-hogs in America for a hundred years) there would be little call for Paris green or arsenate of lead.

Again let us quote figures. There are plenty of them. The appeal to sentiment in order to save the birds is not necessary. The matter can be reduced to a cold business proposition for the farmer, or for anybody else with trees and a garden.

In Farmers' Bulletin No. 513, prepared by the United States Bureau of Biological Survey, it is stated that at a conservative estimate the common tree-sparrow consumes a quarter of an ounce of weed seeds a day. On this basis, in the state of Iowa alone, the bureau estimates these sparrows consume 875 tons of weed seeds. If you will try to imagine the acres upon acres which could be



Tree-sparrows feeding in the snow

sown to weeds with such a pile, and the weeks upon weeks of labor necessary to harrow them out, you hardly need to be told further that the combined sparrow family (not including the pestiferous English sparrow) probably saved the farmers of the United States in 1910 \$89,260,000.

Doesn't it begin to be apparent why the destruction of 2,000,000 birds a year in one state alone, by cats, is a serious affair? If all those birds had been sparrows that would mean a daily increase of 32,000 pounds in the number of weed seeds allowed to ripen, and possibly to germinate, in Massachusetts alone. Of course it doesn't mean quite that, for many birds do not live on weed seeds. On the other hand, many of them live on even more objectionable insects and tree pests. The economic loss is very clear and very serious.

Here is a paragraph from the same bulletin quoted above:

It is interesting to observe that hungry birds—and birds are hungry most of the time—are not content to fill their stomachs with insects or seeds, but, after the stomach is stuffed until it will hold no more, continue to eat till the crop or gullet also is crammed. It is often the case that when the stomach is opened and the contents piled up the pile is two or three times as large as the stomach was when filled. Birds may truly be said to have healthy appetites. To show the astonishing capacity of birds' stomachs and to reveal the extent to which man is indebted to birds for the destruction of noxious insects, the following facts are given as learned by stomach examinations made by assistants of the Biological Survey:

"A tree-swallow's stomach was found to contain 40 entire chinch-bugs and fragments of many others, besides 10 other species of insects. A bank-swallow in Texas devoured 68

cotton-boll weevils, one of the worst insect pests that ever invaded the United States; and 35 cliff-swallows had taken an average of 18 boll weevils each. Two stomachs of pine-siskins from Haywards, California, contained 1,900 black olive scales and 300 plant lice. A killdeer's stomach taken in November in Texas contained over 300 mosquito larvæ. A flicker's stomach held 28 white grubs. A night-hawk's stomach collected in Kentucky contained 34 May-beetles, the adult form of white grubs. Another night-hawk from New York had eaten 24 clover-leaf weevils and 375 ants. Still another night-hawk had eaten 340 grasshoppers, 52 bugs, 3 beetles, 2 wasps, and a spider. A boat-tailed grackle from Texas had eaten at one meal about 100 cotton-boll worms, besides a few other insects. A ring-necked pheasant's crop from Washington contained 8,000 seeds of chickweed and a dandelion head. More than 72,000 seeds have been found in a single duck stomach taken in Louisiana in February."

From so brief a survey as this of the actual, ascertained facts about the habits and economic value of certain birds, it should at least be apparent even to a state legislator, one would suppose, that the subject of bird protection is important, worthy of investigation, not lightly to be dismissed. Some day these gentlemen will wake up, but probably not until public opinion wakes them, including the opinion of those most conservative of God's creatures, the farmers, who for the most part are not yet even dimly aware of how much they owe to birds and how sorely the birds need protection, need it more and more every year. Our birds are decreasing; our pests are increasing. And in part, at least, it is cause and effect, though the increased facilities of commerce and intercourse have been responsible for some of our worst afflictions.

It is not necessary in this chapter to discuss at any length the harmful birds. They are relatively few in number, the worst being the goshawk, the Cooper and sharp-shinned hawks, which are the only ones that seriously raid poultry. Bobolinks are harmful to the Southern rice-fields, destroying as high as ten per cent. of the crop. Crows are neither all bad nor all good; they are the most human of birds! The English sparrow is an undiluted pest because he drives out other and much more desirable birds, and should always be destroyed, either by poison, by traps, or by a gun. Knocking down the nest does no good, though taking out the eggs every day helps. The robin and certain other birds sometimes seriously raid small-fruit crops, particularly the cherry, but by planting a few trees of a wild variety on the edge of an orchard they can be controlled; and in most cases the good they do outbalances the harm. The great bulk of our common North American birds are unreservedly our friends, in a very real sense, working for us at least ten hours a day, busily, without pay, singing at their labors, destroying insect pests, keeping down weeds, grubbing up worms, helping the beneficent forces in nature in their endless battle with the parasites. Their total economic value in this capacity is far up in the millions of dollars. Their destruction would mean a very grave disturbance of the balance of nature; and, conversely, their protection by every means in our power is as much a duty as any other form of conservation. Sentiment may be left quite out of the question.

Over perhaps the worst foe of bird life we have no control—the weather. A bad winter twelve years ago killed nearly all the quail in Massachusetts, for example. The exceptionally deep snow of the winter of 1915-16 also wrought great havoc among the partridges and pheasants. They suffered again in 1917-18, even more, perhaps. The late March blizzard which hit Berkshire in 1919 killed thousands of song-sparrows, robins, bluebirds, and even juncos. Storms may catch the migratory birds when over the water, and destroy them by the thousands. The cold, wet, late spring of 1917, in the Northeastern states, exacted a pathetic toll from the warblers. These beautiful little birds, of so many and bewildering varieties, are entirely insectivorous and seem never to have learned how to eat anything else, even in times of dire need. Migrating in May over a land still too cold and wet for insect life to be active, they were hard pressed, and came into our gardens by the thousands, looking for food in the newly turned earth. I often had redstarts and Blackburnians hopping on my very feet as I hoed or cultivated. They not only died of starvation in droves, but fell, through weakness, an easy prey to cats. A cat belonging to a neighbor of mine was seen to kill ten warblers in a single afternoon. I think if I had seen it I should have killed the cat!

But, next to the elements, man is the birds' chief foe—man, the cruelest of God's creatures. Not only does he turn his cats loose to prey, and go out himself with a gun to slaughter, but gradually, as more and more land comes under cultivation, he is

destroying the cover for the birds, taking away their nesting-places, driving them, his best friends, unconsciously from his door. I never see the modern slaughter with a brush scythe along a country road, for instance, without thinking not only how much beauty of wild landscape gardening has been laid low, but how many nesting-places have been laid low, also—nesting-places for birds that are the farmers' assistants. The vireos and chipping-sparrows love to nest in friendly proximity to a road or lane, in shrubs or low trees, and both varieties of birds are great insect-destroyers. The sparrow also eats weed seeds. A nest of four young sparrows was watched by a government observer at different hours on four different days, and it was found that a day's average rations for the brood was 238 insects and caterpillars. Watching a similar nest in my grapevine, I saw the parents bring seven cutworms (each worm capable of destroying a cauliflower plant worth fifteen or twenty cents) to the young in less than half an hour. How can any one doubt that it pays to have as many chipping-sparrows as possible nesting near one's farm and orchard?

The problem of attracting the birds back to our dwellings and farms, of assisting them to breed in safety, of providing them with proper shelter, and, in seasons when their natural food-supply is difficult to get, of furnishing them the food their active little bodies demand, is not one that can be solved by law. All laws which protect the beneficent birds from destruction by pot and feather hunters, by cats and game-hogs, are of course necessary, and will have to be ever more strictly enforced. But it

is of slight avail to protect the robin from the pot hunter of the South during the winter season, only to let him freeze and starve during a late spring snow-storm in the North, for lack of evergreens to take shelter in, or any food-bearing shrubs above the snow. What is the bluebird to do, or the chickadee, or the downy woodpecker, if he flies to his grove where the hole for his nest was so tempting the year before—and finds no grove there? What are the quail to do in winter when the few who have escaped the hunters find all their food-supply buried deep in snow, at the very time that their bodies need a big supply to keep them warm? Such questions as these are not to be answered by laws. They are only to be answered by individual and community effort.

But, as a matter of fact, they can be answered, and rather easily. How easily, I have illustrated for myself. I lived for some years on a five-acre place, on the main street of a village in western Massachusetts. The heavy snow of March, 1916, lay deep in my yard even on the 1st of April, when a flock of juncos made their appearance. They joined the chickadees and tree-sparrows and other birds which had been with us all winter, in the steady procession down to the feeding-shelf outside the kitchen window. But I decided there were too many of them for that small supply station, so I packed down with my snow-shoes a considerable area on the other side of the house, and scattered seeds and fine mixed chicken feed (which I had been using for pheasants) on the hard snow. The juncos immediately discovered it, as did a flock of horned



Chickadees in a Japanese print

larks (rare visitors with us). As the snow rapidly melted, I kept food scattered about. In a few days the lawn was visible, but the birds were still there, and in the morning when I got up, there would be no less than a hundred of them scratching and pecking in the grass. I stopped putting out food now, but they did not stop pecking. In the section where they worked, the lawn is spoiled late each summer by crab grass, an abominable annual, which spreads low and ripens in spite of the mower, thus seeding itself. That flock of birds was after the seed and doing me a valuable service. A little feeding at a time when they needed it kept them on my premises until they were ready to migrate northward.

Outside my kitchen door stood an apple-tree. Just beyond this tree was a thick stand of pines, partly on my land, partly across the fence on my neighbor's. All winter long a large number of birds rode out the severest storms in the safe shelter of these evergreens, and came to the apple-tree for a perch before darting down to the window-ledge for sunflower seeds and suet. Our all-winter guests included in one season chickadees, white-breasted nuthatches, a pair of golden-crowned kinglets, tree-sparrows, a pair of downy woodpeckers (their third winter), a pair of red-breasted nuthatches (their third winter also), several blue jays, and a cock pheasant, which stalked up in a stately manner over the snow nearly every morning. The chickadees would alight on our fingers, our heads and shoulders, and even hop through the open door or window into the house and eat from a

dish on the table. But neither chickadees, nut-hatches, nor woodpeckers were made lazy by this feeding. They continued, even after a square meal, to hop up and down and round about every limb and twig of the apple-tree, exploring every crevice of the bark. And that tree in three years never had a caterpillar's nest on it, nor showed any sign of injury by insect pests or scale. I do not need the evidence which comes from Germany (where much more extensive efforts have been made to attract the birds) that birds are beneficent in our trees. In the spring of 1905, in Eisenach, the larvæ of a moth attacked and nearly stripped a large wood, while in a neighboring wood in Seebach, in which nesting-houses had been systematically placed, the trees were uninjured. A similar effect was noticed in the orchards. Whereupon, according to Gilbert H. Trafton, in his excellent book, *Methods of Attracting Birds*, the inhabitants of the villages around Seebach began to put out bird-boxes also, and the pest visibly decreased.

The steady feeding of the birds during the winter frequently induces them to remain and nest near the dwelling, especially if food is kept out through the spring. Nearly every year a pair of chickadees nested in a wren-box on my summer-house, the box being immediately reoccupied, after their departure, by the wrens. One pair of woodpeckers, too, remained all the year, and though they were much less conspicuous during the summer, I often heard their hammering on the apple-trees and saw them hard at work destroying insects under the bark. Our yard, indeed, was full of birds' nests, and we had

an excellent opportunity of checking up their habits and estimating any damage they may do. The



Jennie Wren brings scores of grubs to the nest

damage consists of fruit-robbing. We generally had two pairs of cat-birds, who nested either in the

red osier dogwood bushes or in a tall hedge of ancient, tangled syringa. These birds, which were extremely friendly and would sit on a low branch and mock us as we stood below and whistled, undoubtedly steal raspberries, but not enough to cause any serious loss. The robins, however, which are always extremely numerous, as many as a dozen nests having been built on the place in a season, did annoy us each year by completely stripping a cherry-tree. If we had grown cherries commercially we should have had to take steps to protect the fruit. But with these two exceptions all the bird activities we were able to observe were beneficent.

For instance, a pair of robins built a nest under the eaves, on top of a shutter, and reared two broods. When the second brood was hatched the fall web-worms had begun to hang their horrid nests up in the slender limb-tips of an elm and a birch near by, beyond the reach of any ladder. Day after day we could see the parent robins flying to these nests and returning with food for their hungry brood. Three wren-houses (one of them, at first unoccupied, was finally rented by means of a "To Let" sign!) were sometimes the homes of two broods a season, and the cheerful little tenants not only delighted us all day with their chatter, but could be seen constantly flying into the hole with bugs, caterpillars, grasshoppers, cutworms, and the like for their crowded nestful of squeaking, hungry young. A family of young wrens keeps the parents extremely busy hunting pests. Over my summer-house climbed several Virginia creepers, and usually a pair of chipping-sparrows built in the thickly

twined stems, about six feet from the ground, so well concealed by the overhanging leaves that you wondered the birds could find the way in themselves. It is much harder to see what the sparrows bring to their young, as they are shy and crafty about approaching the nest, but by sitting very still I have watched the parents coming in with caterpillars over and over. The United States Bureau of Biological Survey gives forty-two per cent. of their food as "insects and spiders, chiefly caterpillars," and fifty-eight per cent. vegetable matter. That the vegetable matter is seeds you have only to watch the sparrows hopping over the ground to determine for yourself. One day I saw a chipping-sparrow fly down from his nest in the vines, to the lawn, and start in on a ripe dandelion-top which was almost ready to burst and scatter its seeds. He completely finished this head, stripping it to the bare, green crown before he rose.

The chipping-sparrows likewise nested in a row of cedars along a garden path, and here, too, the song-sparrows sometimes built. The song-sparrow, one of the most friendly of summer visitors, who comes early and sings all the time he is here, is generally assigned to the group of ground-building birds; but he is adaptable both as to nest and as to diet, and with us seemed to prefer the thick protection of an upstanding cedar, several feet above the ground, to a nest in the grass. It was almost a joke with us that we never went out into the garden to work or to pick flowers, but one of our song-sparrows spied us, and thereupon sought the tall, swaying leader of a young pine or spruce and began

to sing his liquid, melodious welcome. Like the chipping-sparrow, the song-sparrow eats more largely of weed seeds than of insects—in fact, three-fourths of his diet is weed seeds.

Just now, as I write [I find this entry in my journal for one early September], there is a whole flock of song-sparrows in the neighborhood—twenty or more, I should say—and this morning they were all in my Early Rose potato-patch. The vines have pretty well died down, and the weeds, especially the grasses, which escaped the cultivator by growing amid the hills, are standing up in plain sight and beginning to drop their seeds. As I passed the bed all the sparrows rose with a whirl (I had not seen them, and their flight startled me), but instantly settled down out of sight again when I had gone on a few steps, in and under the weeds. Two hours later, when I once more passed by, they were still at it. No one, of course, can calculate the number of seeds those birds ate, but it was in the thousands, certainly, and next year's cultivating will be by so much the easier, next year's crop so much the more successful, for a given amount of labor.

Among other birds which nested on the place were downy woodpeckers, flickers, king-birds, phoebes, ruby-throated humming-birds, screech-owls, orioles, flycatchers, and swallows, all of them without artificial boxes. Of course, the bluebirds, owls, and woodpeckers would need boxes on a place where there were no trees with rotten limbs or holes, but our orchard was an old one and had several ideal trees from the bird standpoint, if not from that of the orchardist. We also had an old hickory, once struck by lightning and now sawed off twenty feet from the ground, with a tin cap nailed over the stub. Under this cap both owls and flickers have nested.

one flicker, two or three years ago, taking great delight in drumming on the under side of the tin for fifteen minutes at a time, like a small boy with an old dishpan. Sometimes he made so much noise it was a nuisance. Almost invariably when you start up a flicker it is from the ground. I used to come on them over and over in the middle of the lawn, and was not surprised when I found that the investigations of flickers' crops and stomachs showed they live very largely upon ants. Any one who has been troubled by ant-hills in a lawn (and who has not?) will be glad to learn that the government bureau found as many as five thousand ants in a single stomach, and that flickers, when natural holes are not available, will take readily to artificial boxes.

Bluebirds, too, will readily nest in boxes, and if you had sat as I did one day, quietly in the orchard, and watched a single bluebird alternating song with caterpillar-eating—a caterpillar, then a bit of melody, then another caterpillar, and another bit of melody, and so on, unceasingly, for two hours—you would still further rejoice in the presence of this beloved messenger of spring. The king-bird, too, is an orchard nester. He bears the unpleasant technical name of *Tyrannus tyrannus*, but none that I have observed merited even one of these terms, let alone the double dose. It is the characteristic of a tyrant to oppress everybody, especially the weak, but the king-birds reserve their pugnacity for birds larger and stronger than themselves—namely, the hawks and crows. I well remember, in my boyhood, a pair of king-birds which nested in our orchard, at a

time when crows were plentiful near by. Almost daily we would hear cries and caws of conflict, and, rushing out, I would watch with delight the flight of the two relatively small gray-and-white birds at one side or directly over the great black crow. They would dart down upon him exactly as one fancies an airplane used to dart down over a Zeppelin to drop a bomb; and invariably they drove the crow away, sometimes pursuing him out of sight. The king-bird lives largely on an insectivorous diet, and one of his greatest merits is his fondness for rose-bugs. Long live the king-bird!

So we might continue, if there were space and time, enumerating the various birds and telling of their diet, which almost invariably will be found to consist of insects or vegetable matter injurious to the farm or orchard or garden. Only certain hawks, the starlings, and English sparrows (because they drive away more desirable birds), and to a limited extent the crow, the jay, and one or two more are objectionable. All the rest are of very real and positive service to mankind, capable of returning a money value to the nation conservatively estimated at many millions of dollars a year.

But to render this service they must be encouraged, not discouraged, and they must be fed and housed when nature fails them. Their greatest need for food, of course, is in winter, or late autumn and early spring, for in summer there is food enough and to spare—more now than ever before, with the increase of insect pests. Their greatest need for housing is in those districts which are thickly settled, or becoming so, where the natural cover is cut off

and suitable nesting-places are destroyed. For every rotted tree, or tree with holes in it, which is



The martin-house

cut down or cemented up, the wise farmer or gardener will mount flicker, woodpecker, wren, and

bluebird boxes, and put up martin-houses. At present this is chiefly done in the larger suburban towns (like Greenwich, Connecticut, which has a splendid organization that has done great service both to the birds and to the community). There is need in such places, of course, but the need is by no means confined to the towns. Modern farm barns are often closed to the beneficent barn-swallows, and modern flues are less adapted than of old to the chimney-swifts. New orchards have no rot holes, and with the farmer trimming all the roadside adjoining his fields, and the State Highway Commissioners cutting down all the wild gardens beyond him, and the lumbermen buying and cutting down all his woodland, the birds have a progressively harder time everywhere. Besides, it is not far out in the fields or the woods that we so much need them—it is about our dwellings, our orchards, our gardens, for their services, even if we do not appreciate their companionship.

And it is so easy and pleasant to aid the birds, for nearly everything they need is also a desirable adornment for man! For the winter birds there should always be some evergreen protection, and it is a safe generalization that no country house is complete without such protection also. For summer nesting there should be proper trees, and boxes for the birds which require holes, and also some thick shrubbery, trimmed when young, if possible, to grow into whorls to hold the nests, and thereafter left undisturbed to attain a natural wildness and to protect its center from invasion, by out-thrown growths. Not only is such shrubbery needed for



The play of the chimney-swifts at twilight

the birds, but it is the only proper way to plant shrubbery, anyhow. Then, of course, there should be water readily available—not in a deep receptacle, but in a shallow bath not over two inches deep. My

most successful of several bird baths is simply a shallow pan, oval in shape and about twenty-four inches long, embedded with its lip level with the sod, between two spiræa bushes and almost underneath an iris plant. It is flushed and filled with a hose every day or two, and makes a bright little twinkle of reflection as you look toward the edge of the garden. At this bath, on a hot day, the birds literally form in line, waiting their turn, for it is characteristic of all birds that they insist on bathing alone, if they are strong enough to maintain their rights against an insistent competitor. I have even seen a sparrow drive out a robin. The baths form an important part of bird attraction, and any yard, even in a city, which has the proper water facilities will be sure of its feathered visitors.

In the midwinter season, when nearly all natural food is covered up with snow, suet fastened in wire racks with meshes wide enough for the birds to peck through, and a plentiful supply of sunflower seeds put out daily on a shelf or the trodden snow (a shelf with a shelter over it is best, of course), will serve admirably for the tastes of most of our winter residents. Bread crumbs, fine mixed chicken feed, crumbled dog biscuit, and cracked nuts are all good, but the two staples of animal and vegetable food, respectively, are undoubtedly suet and sunflower seeds. It is well to have the food out early, before the snow comes, and to maintain the supply until the spring is well advanced. But the feeding of the birds should not end with these artificial provisions. There are some winter visitors, such as the occasional pine-grosbeaks, which will not eat at the



Tapping away at a frozen bit of suet

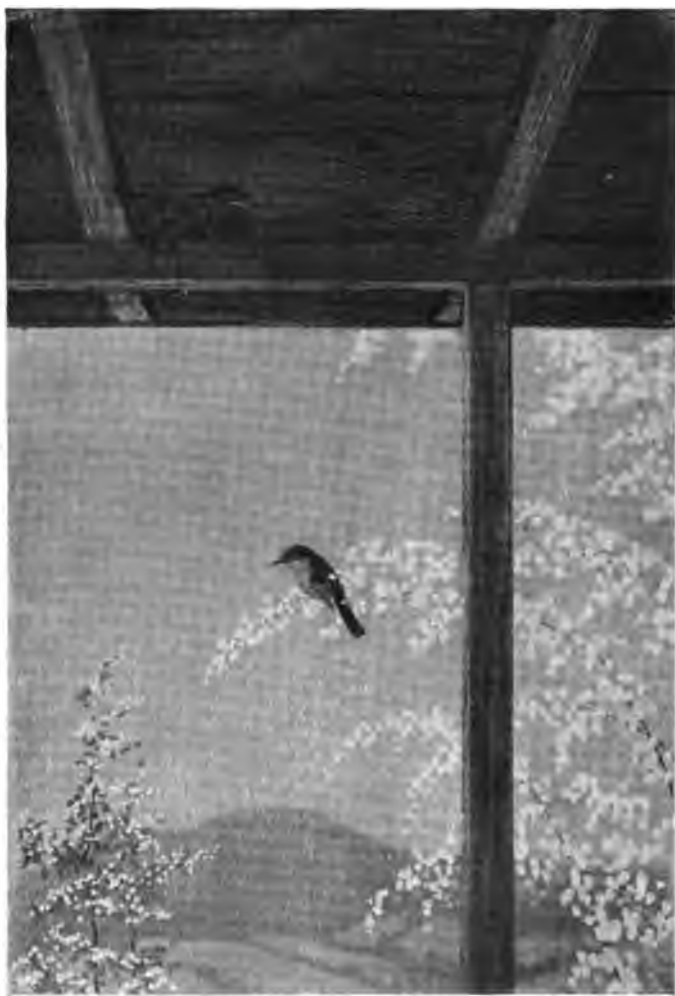
feeding-table, and many early spring arrivals which look for other food. Then, too, at all seasons it must be remembered that wild fruit is greatly appreciated, and serves as a great attraction. Therefore certain shrubs and trees should be planted which have attractive fruit, and some which will hold this fruit above the snow during the winter.

Of all such shrubs and trees, undoubtedly the most useful is the mulberry. If planted near cherries, it is said, the robins will even leave the cherries alone. The June berry is also recommended to protect strawberry beds, but I have found that, as far as strawberries are concerned, black threads stretched taut over the rows will effectively keep the robins away. Among the ornamental vines, shrubs, and trees the most useful are, perhaps, the common Virginia creeper, the barberry (which the pine-grosbeaks especially like), the cedar, and the mountain ash. All of these are distinct adornments to house or garden, be it noted, and provide nesting-places as well as food for the birds. I have found the red osier dogwood (*Cornus stolonifera*) an unfailing attraction to domestically inclined cat-birds, and its berries are invariably all eaten. Holly, bayberry, black alder, bittersweet, elderberry, and burning-bush are other varieties which may be planted. If you have soil without lime, you might try a blueberry-bush. Of course, a honeysuckle-vine is the best of all lures to the humming-birds, and few birds can resist a sunflower patch after the flowers have gone to seed. I remember we once cut a mass of sunflowers and laid them out on a back veranda to dry, but before we

knew what was up a flock of birds had discovered them and taken half our stock. Cosmos and lettuce gone to seed are two of the surest lures for the goldfinches.

I feel almost as if I owed an apology to my little feathered friends for writing of them so statistically save only that it is in their defense. When I think how much less pleasant, nay, how much less home-like, my home would be without the birds, I realize anew my debt to them for things more precious than material advantages. When I think how since my earliest boyhood I have watched the chimney-swallows rise and dart against the pale-gold sky of evening, the old brick chimney-stack seems no more a part of home than they. When I recall how the birds bathed fearlessly in my garden, naively performing their toilets (about which they are so particular) with all the unconsciousness of some wild field bird in a rain-pool on a pasture rock, it seems to me the birds bring a bit of the far, free spaces into my garden close. When I see a chickadee tapping away at a frozen bit of suet, suspended against the gray and white landscape of winter, his little black head is a symbol of the cheerfulness of the snow, and when I hear the harder blows of the woodpecker at the suet ball, I say:

“Hammer away, old chap! That’s what we put it there for. It’s poor picking under the tree bark now, and that beautiful, sleek, black-and-white body of yours needs heat to maintain itself in this frozen world. Come again, and often, you bit of vivid life in the chill and naked tracery of winter limbs.”



A phoebe nesting under the porch eaves

When I remember the twinkling eye of the mother phoebe that watched us from her nest over the inside rafter of the porch, and the cheery outlook on the garden world maintained by her spouse from a perch just outside, in a spray of blossoms, I think of them both as members of the family, like the robin who for three years built under another porch, and would let us mount a chair and see her babies at close range. And when I think of the packed snow outside the house in winter, and the fearless little brown sparrows, or the juncos, fluttering from the protecting evergreens or leaving their task of hopping under the weed stalks near by, and gathering around for crumbs, I think of the gentle saint of Assisi, though no sermon comes to my lips for this feathered congregation. It is not spiritual food they are after! Indeed, by their busy little lives, so full of danger, yet so full of song, it is rather they who do the preaching. They are so faithful to their single mates, so few of them ever kill their kind in the struggle to survive, they work so hard to bring up their families properly, they do not even fight (except occasionally and in bloodless combat, to get first turn at the tub), they are so beautiful to look at, so pleasant to hear! The air without birds would be an aerial desert, cold and void, and without their song—without the fluting of the white-throat in the spring, the midsummer chatter of the wrens, the reveille of the robins and the vesper of the song-sparrows, without the piercingly sweet call of the meadow-lark behind the summer-house and the cool, elfin, woodland clarion of the thrush which lives in the great trees just up the hill—a silence

would settle over my garden which would seem like the silence of the grave, as if the life breath had gone out of nature; and I should be as one bereft. That the birds eat so many insect pests and destroy so many noxious weeds I am thankful. But I love them just for their air-darting, feathered selves, for their freedom, their friendliness, and their melody.



Winter or summer, the crow has his place in the prospect

JIM CROW

THE American crow (*Corvus americanus*) is the wisest of all our birds, the best able to take care of himself under any and all circumstances, the most difficult to exterminate, and yet the easiest to tame. He has, from the earliest settlement of the country, been looked upon as a pest, and his tribe has enriched our language with the word scarecrow. Probably he was regarded as a pest long before the advent of the *Mayflower*; the squaws of the Six Nations doubtless shooed him from their maize-plantings while Joseph was hoarding corn in Egypt, and the braves of the Six Nations affirmed that you never saw a crow when you had your bow with you. He is still to-day regarded as a pest, though in a lesser degree, for we have learned that a coating of coal-tar over the seed-grain will generally protect the corn-planting, and we have learned that his fondness for wireworms, cutworms,

grasshoppers, and white grubs probably counterbalances to a very considerable extent, if not entirely, his destructive instincts toward the eggs and young of other birds. The most that the United States Department of Agriculture, in its famous Farmers' Bulletin 54, will say is that "a reduction in its numbers in localities where it is seriously destructive is justifiable." But does any one love the crow? Has any one thought how much poorer, less characteristic, our landscape would be were he exterminated? We have sent our sluggards to the ant for instruction, but have we considered the crow, adept in co-operation, intelligently gregarious, with what the Farmers' Bulletin calls "the social instinct" highly developed? It would seem that our New England farmers, at any rate, have much to learn from this despised bird! One man, of course, appreciated him—Thoreau; but he appreciated everything in our native fields and forests. And I doubt not that every man who as a boy once had a pet crow loves still the entire species and finds a wistful music in their call.

A pet crow's name is always Jim, regardless of sex. Just why that is those wiser in folk-lore than I will have to answer. Even the famous jackdaw of the now-ill-fated Rheims became Saint Jim when he died a penitent, did he not? The name must have come over the water with our ancestors. Like the jackdaw, too, the crow's middle name is always mischief. The process of catching and taming a crow is not difficult—if you have somebody to climb the tree for you. As the crows almost invariably nest in the tallest white-pine trees, particularly those in

swampy places, and as the process of scaling a tall white pine is neither clean nor easy, young crows are usually secured by small boys. Even Thoreau admitted the difficulty of reaching the crow's nest, but it did not deter him. On May 11, 1855, he records (*Notes on New England Birds*): "You can hardly walk in a thick pine wood now, especially in a swamp, but presently you will have a crow or two over your head, either silently flitting over, to spy at what you would be at and if its nest is in danger, or angrily cawing.



A fledgling crow

It is most impressive when, looking for their nests, you first detect the presence of the bird by its shadow." How like Thoreau is that last touch of subtle observation!

When I was a boy our favorite method of securing a young crow, after we had discovered a nest, was

to climb the pine-tree clad in overalls to protect us from pitch, and armed with a ball of twine with a small cloth bag tied to one end. The operation had to be conducted in May, for the crow breeds early. If the birds were found to be too young, experience taught us it was better to wait a few days. If, however, the silly, homely little things had grown feathers enough to bear a family resemblance to their parents instead of to a lump of animated coal-tar, the most aggressive bird would be lifted from the nest, put as gently as possible into the bag, and lowered by the cord to the ground, where another boy was waiting—not a simple job by any means, as it would not do to bang the poor creature against the limbs or trunk of the tree in its descent, and the light, swaying load had to be navigated between branches, while the parent birds sometimes kept up a perfect stream of terrified profanity overhead. (There is no question but the crow swears. Anybody who has observed him closely will testify to this.)

Once safely out of the tree, the baby crow was taken home and put in a barrel or a deep box, with plenty of smallish sticks at the bottom for it to catch hold of with its feet, and later perches put across higher up the sides. Bread soaked in milk was usually found to be the best diet for a time—and not as much of that as the little greedy-gut demanded. There is nothing so greedy as a small bird, and nothing so vociferous about it as a small crow. If you give them all they demand, you can kill them in twenty-four hours. Did you ever see a young crow being fed by its parents? At that de-

pendent stage of their existence they cry for food almost incessantly, and keep right on crying as the food is going down, which results in an odd sound something like this:

Squaw, squaw, squa—(down goes a white grub dropped from the parent's beak) *awbble, awbble, awbble; squaw, squaw, squa*—(down the yawning gullet goes another morsel of food from the other parent)—*awbble, awbble, awbble*. They behave in much the same way when a human is trying to bring them up, and a great deal depends upon your ability to resist their appeals before you kill them with kindness.



Crying incessantly for food

Once the young crow has passed the dangerous age and is able to be placed on a perch outside of his barrel and fed with a more miscellaneous diet, or put upon the low roof of some outhouse, whence he hops to the ground and learns to fly, your troubles of that sort are over. He will soon be foraging for

himself. Nor do you need to clip his wings. He will not desert you. Sometimes, perhaps, you will almost wish he would. The crow is by nature gregarious. If he is not flocking with birds of his feather, he will stick close to his human protectors. He has, too, a strongly developed sense of place, almost like a cat (whom he also resembles in his personal independence and frequent resentment of any handling save a stroking of his head). I knew a pet crow who was left behind for two weeks while the entire family went away on a visit, and when they returned he was strolling about the yard, and came walking, with frequent hops of haste and a short flight or two, to meet them, uttering little caws of welcome.

The possession of a pet crow is not only an endless source of amusement—not unmixed at times with annoyance at his mischief, almost as in the case of a pet monkey—but it affords an opportunity to study the habits of the bird, especially his diet. As the whole question of the crow's destructiveness is concerned with his diet, this study has peculiar interest, and the case of Jim Stone, captured in May, 1913, is worth recording.

Jim's capture was effected in the orthodox manner—by the employment of an energetic small boy to climb the pine-tree; and his early upbringing was orthodox, also. His supply of milk-soaked bread was always withdrawn before his pleadings ceased, and in a short time he could perch outside of his barrel, and presently he was placed on the low roof of the woodshed and taught to fly. After this lesson was learned he became a self-sustaining member

of the household, and by no means the least conspicuous member. He had the free range not only of the garden behind the house, but of the whole farm and the Berkshire Hills beyond. No effort whatever was made to confine him. Yet he, in his turn, showed no disposition to depart and join his feathered fellows. As a matter of fact, he showed an odd fear of his own kind, and when wild crows came into the garden he would fly hastily to the protection of the woodshed or the kitchen door. . I wonder if this is characteristic of all crows reared in captivity? Neither did he at



He would follow up the rows of fresh-turned earth

any time during the entire season molest the garden or the field corn, in spite of his constant opportunities, nor any of the numerous robin and field-sparrow nests about the place. This may, of course, be explained in part by his many opportunities to get food more easily at the kitchen door—scraps fallen

about the garbage-pail, for instance, for crows are natural scavengers, and they are extremely fond of meat and fish.

On the other hand, there were plentiful evidences of his beneficent activities in the garden. Almost invariably, when the master of the house picked up a hoe or fork and set forth to cultivate, Jim would come walking, with that quaint, rather uncertain, sidelong gait of his tribe, interspersed with hops, and follow up the rows of fresh-turned earth behind the gardener, pouncing upon every white grub which was brought into sight. They were very evidently his favorite morsel, as he would frequently neglect other worms when the fat white ones were plentiful. His capacity for these grubs seemed unlimited, and when you reflect that a single grub in a single night can kill a cauliflower-plant which is worth fifteen cents to the gardener, Jim is seen to have had a very positive commercial value.

Another item of Jim's diet was mice. The first evidence of his fondness for mice was disclosed when somebody found a trap successfully sprung one morning and tossed the little body out of the door near the dog's nose to see what he would do with it. He was an energetic and good-natured collie pup, always ready to investigate anything and anybody, and he at once picked up the mouse in his teeth. The crow, however, happened to be close by (he usually kept close to the dog, whenever possible, in a curious spirit of teasing comradeship), and with an angry and profane caw he rose from the ground, swept down at the dog's head, and snatched the mouse out of his mouth, flying off with it, and cast-

ing back over his shoulder as he flew a cry of withering scorn, a sort of, "You would, would you!"

This, to be sure, by itself was hardly evidence that the crow is an enemy of field-mice, but it kept his owners on the lookout, and plenty of evidence was forthcoming later in the year, when, after the corn had been shocked and the fields frozen, he used to follow whoever went out from the barn for a load of fodder, and hover over the shock as it was lifted. Frequently, of course, a mouse would scurry out from beneath, sometimes three or four mice, and down upon them Jim would pounce with astonishing speed, and kill them apparently with a single tweak of his powerful bill. No matter if four mice ran out from under the same shock at the same time, he would invariably get every one, and then proceed to hide them.



His liking for bright objects is sometimes a nuisance

It was curious to watch his instinct to hide things manifest itself in a hundred odd ways, to the human mind not in the least related to a food-supply. Any small object which was bright and shining particularly attracted him, and he would spend hours attempting to hide bits of broken crockery or glass in the dog's fur or in his ear. Don's ear was a favorite hiding-place. Jim would get a bit of crockery in his beak, hop upon the dog's head, drop it neatly into his ear, and then carefully fold the ear-flap down over the aperture. If Don objected and raised his ear again, Jim would once more grab it and fold it down, scolding meanwhile. If Don were wide awake he did not seem to mind this performance in the least, but if he chanced to be sleepy he would get up with a bored air, shake out the crockery from his ear, and with the look of one who says, "For Heaven's sake, why can't they leave me in peace!" walk away to some other place. Nothing discouraged, Jim would slowly follow along behind him, keeping an eye cocked meanwhile for a fresh bit of shiny stuff (even a bright pebble would do), and, when Don once more lay down, the entire operation would be repeated.

One could never be certain at these times how far Jim's actions were purely teleological—the exercise in captivity of instincts upon which the endurance of the wild species depends—and how far there was mingled with them an almost human love of teasing. For Jim unquestionably loved to tease. Of that there could be no doubt. He knew, too, just as a dog knows, who could be teased and who couldn't. There were two lambs on the place, one a stolid

creature, and one of totally different temperament, highly excitable, in fact. Jim discovered the difference after a single trial. As they were frisking about one day he lit first on the back of one and then on the back of the other, sinking his claws into the wool with a good grip, flapping his wings, and caw-



Sinking his claws into the wool and cawing delightedly

ing delightedly. One lamb paid no attention to him, but the other immediately took fright and began to buck like a broncho, or rather an animated sawhorse, and then to cavort about the pasture lot. Thereafter Jim confined his attentions entirely to her. He never tried to ride the other lamb, but again and again he would pounce down suddenly upon the poor timid one's back, set up a great flapping and cawing, and speedily enjoy a free ride over a goodly portion of the surrounding landscape.

He loved to plague human beings, also. Here his method was simple, but to a stranger at least highly effective. It consisted of perching on a low-hanging limb of the big maple in the dooryard and dropping suddenly down upon the head of the unsuspecting caller. Once he had accomplished his purpose, he would fly back to the limb and sit there emitting sounds which it required no imagination whatever to construe as chortles of glee. But, among frequent visitors to the house, and among the regular occupants as well, he soon learned who were the ones that his actions annoyed, and confined his attentions to them, just as a small boy will jump from behind the corner with a loud "Boo!" only at the little girls who scream with terror. Jim had a particular victim of the timid sex from whose hair he used to extract the hairpins whenever he had the chance, flying off with one in his claws and uttering cries of diabolical glee. He never took hairpins from anybody else.

Jim—like all tame crows that I have ever had anything to do with—in spite of his evident desire for human companionship, never really showed any affection. It was as if those gregarious instincts which have made the crow family so successful in the evolutionary struggle were merely perverted a little, and Jim flocked with us. Often he would hop upon the window-sill when the family were inside, and peck at the pane, uttering his queer gibber of low caws and crow talk; but it was merely to induce somebody to come out and pay attention to him. He would let you stroke him on the head—would even beg you to, in fact; but that was merely

because he enjoyed the physical sensation, not because it was a form of contact with one he loved, as in the case of a dog. Try to put your hand about his body and pick him up, and away he would struggle, with an angry oath, his instinct of personal independence roused into fierce resentment. After all, a crow is a bird, a creature of the air, of the free spaces. He has a marvelous adaptability to human companionship, but his heart remains aloft.

I have never myself heard a crow talk. There used to be a theory when I was a boy that if you slit their tongues they could talk, but I never tried this measure. It is perfectly easy, however, for a fairly lively imagination to construe the incessant gibber of a pet crow into human speech. He makes so many noises that some of them are mathematically bound to resemble certain monosyllabic and even bisyllabic words. Jim, for example, frequently said "Papa" quite as plainly as most babies do when they are being shown off by their proud parents. Certain it is that if any bird could be taught to use speech intelligently, the crow could. He has a perfectly well-defined language of his own, which is unfailingly understood by his fellows. I have heard it said that an investigator in Washington, D. C., could distinguish and successfully imitate no less than twenty different crow calls, each with a specific meaning. This may be an exaggeration, but any observant farmer's boy knows half a dozen. Many times I have gone out into the fields and seen the crows walking about on the ground, with one or two sentinels posted in conspicuous trees at the edge of the clearing, and heard a sudden caw go

up from those sentinels as they spied me. That caw meant the approach of danger, yet the birds on the ground would keep right on at their task. Perhaps I would swerve aside and turn up the wood road, and nothing more would happen. On the other hand, sometimes I would pick up a stick the length of a gun, and approach the bars to the field. Then the sentinels would utter another caw, sharper in sound, appreciably different from the first, and instantly every bird on the ground would rise and disappear into the woods on the farther side. I have done this time and again to make sure that there is a difference in the two notes, and I cannot doubt it. They say two distinct and different things; they are definite sentences. Take again the cawing of the crows about the house in the early morning, or far off across the upland pasture in the woods where the night mists still trail the tree-tops. The note is not harsh; softened by distance, indeed, it is positively mellow. It speaks of sun-up and breakfast no less surely than the song of the meadow-lark or the fluting of the white-throat. Wandering over the uplands when the crows are calling, with now and then a glimpse of their shining black bodies winging against the blue sky, or a red October maple, you have a sense of landscape charm peculiarly American, and the caws are music to your ears, the folk-song of our woods and cornlands. But what an utterly different note the crow emits when he is on the war-path or gathering in angry council—gathering in a caw-cuss, as the old New England punsters always put it. When the crow cries, "Here is corn for breakfast!" we hear music

over the fields. When he cries, "Come here, quick, and help fight this owl!" even the dullest farmer's lad knows at once the difference. There is no doubt but the crows have a definite language of their own, and no doubt but it contains a liberal mixture of profanity. As a guest once remarked when Jim was particularly provoked at the dog, who had grabbed a bit of meat away from him, and was expressing himself freely and fully, "That crow's language makes a barge-driver sound like a Sunday-school superintendent"—an expression well within the facts.

How close a crow is to the intelligence of such an animal as the dog has been attested on numerous occasions. I once knew of a pet crow many years ago, for example, which belonged to a small boy on a farm. The boy's grandfather lived a few hundred yards away, and every morning of the year the crow flew first to the grandfather's house, waking that old gentleman up with almost clockwork regularity (he seldom varied more than fifteen minutes, though the sun, supposedly his timepiece, varied whole hours), and then he returned and roused his own family. The family-rousing process was simple. He perched on a bedroom window-sill and cawed. Sleep thereafter became impossible. If you are fond of sleeping late in the morning, by the way, do not try to keep a pet crow, or you may become as profane as he. It was this same crow which, greatly to the children's delight and the teacher's wrath, followed his little master to school one morning, pounced upon the school-house key when the teacher dropped it, and, flying to a low branch over her

head, sat there for nearly half an hour, replying sarcastically to her threats. He used to come to meet his master almost every day when school was out, again telling the time by some instinct as mysterious as a dog's, and either riding home on his master's shoulder or else flying along ahead, lighting on the fence-posts. It was the same crow, too, who got into the house, upset a bottle of ink, investigated the contents with his feet, and then walked on the bed-spread. It was a seven-day wonder in the neighborhood that, because of his master's pleading, his life was spared. The youngsters looked with a kind of awe upon a boy who could put up such a case to his justly irate parents. Demosthenes seemed, by comparison, rather second-rate.

The same little boy, curiously enough, in after-years became connected for a time with the Zoological Gardens in Washington, where they had a large cage containing crows. It had been the habit to feed these crows corn, that supposedly being their staple diet, though it might have occurred to the keepers that the crow in its natural state can secure corn but for a week or two in late May, and possibly for a time at harvest. At any rate, they had been dying off regularly, constant fresh recruits being necessary. But when the former owner of the mischievous Jim arrived he spoke out of his experience, and declared that crows like meat and probably need it. The other keepers laughed at him, but he fed these birds meat, none the less, and the deaths ceased. It is apparent to any observer that crows are by nature meat-eaters, and in captivity they appear to prefer a meat diet. It is not from any wanton

cruelty that they sometimes prey on the eggs and young of other birds. They are simply after food.

A year or two ago I passed through Niagara in midwinter and stopped over a day to ride through the gorge below the Falls in order to see the superb spectacle of the great ice-cakes tossing and grinding in the whirl and chop of the rapids. After the first narrow rush of the river was over and the stream widened and grew comparatively calm, I was amazed to see almost every ice-cake bearing a black rider. At first I could not trust my eyes, and asked a native if those riders were crows. He assured me that they were, and that they were fishing for scraps in the water. I watched the birds for nearly an hour, and he was quite right. They were fishing for scraps of food, and it was easier and probably safer to fish from the edge of an ice-cake than to fly low over this turbulent current, where the waves were uncertain in their sudden up-jump, and in zero weather when wet feathers meant an ice-coat. The surrounding country lay two feet deep in snow, so that food was probably very scarce. But here, on this stream that never freezes, floated the refuse of the towns just above, and the crows knew it. They rode their ice-cakes in countless numbers—thousands upon thousands of them, and their black bodies winged up out of the gorge against the white Canadian slopes. They were for the most part silent, however, though now and then a faint caw came over the titanic hiss of the rapids. It seemed to me as convincing a demonstration as I had ever seen of the crow's intelligent adaptability to a changing environment.

But the very next week I saw still another example. I chanced to be riding through Long Island, and in many of the fields in the central portion corn-shocks still stood, and there were patches of oats here and there, or perhaps only single stalks now and again, missed by the reapers and left lying on the ground. At all such spots the crows were congregated. But the following night it snowed, and in the morning I saw flight after flight of crows headed south toward the seashore, without doubt making for the water's edge, where they could still get at food, either shellfish or refuse cast up by the tide.

Only last winter, in my own inland hills, I watched the crows adapt themselves, on a much smaller scale (for they do not winter with us in any large number), to the necessities of the snow. The snow was very deep, and most of their vegetable food was no doubt scarce or inaccessible. But through a meadow ran the depression made by a little rivulet, and here and there along its banks the water had worked in under the snow cornice till the overhang collapsed, exposing a bit of black mud, or at any rate but slightly covering it. Here two or three crows would congregate, being startlingly visible on the great white field of the meadow, and dig into the mud, even scratching away the snow to expose it. Examination of their work showed that they had excavated and devoured crawfish, and no doubt had found other animal life as well, of which no remains were left. That same winter, too, I saw on a field of snow about six inches deep a remarkable evidence of the crow's acuteness of sense—which

sense, vision or odor or reasoning, I cannot say. Walking over this field, I came upon two footprints of a crow, with the brush-marks of the wings on either side. Just in front was a hole into the snow, from the bottom of which a piece of mud-wasps' nest had been extracted, the bodies it contained (if any) eaten, and the gray comb dropped. Now, that bit of nest was buried under six inches of snow, and could hardly have been visible from above. Yet the crow had descended exactly to it, without having to take a single step after alighting. The only explanation I can give—except the improbable one of pure chance—is that some conformation of the snow over the nest disclosed to the bird's reasoning faculties or trained instinct the presence beneath of something worth investigating. In my own oat-field, after the snow has covered the mown stubble, the crows walk about and get grain with a sure instinct; but here they are on the ground, and hence so near the object sought that other senses can aid them.

The single crow, too, not only shifts wisely for himself, but thinks of his fellows. They are co-operative workers. The tribe survives because of tribe instinct no less than individual smartness. Last winter a farmer in our region was bringing home on a wood-sledge a load of oats from the village and one of the bags fell over and the grain trickled out for a quarter of a mile along the road before he discovered the accident. That was late in the afternoon. The next morning the road was quite literally black with crows. They must have come from miles around, for but few had been noted in the

neighborhood previously. Certainly, both around our houses and in the woods, the chickadees and juncos had far outnumbered them. Yet some bird, spying the life-saving food on the road, had spread the word in a night through all the countryside and here was a veritable black army the next morning. Just the other day, late in March, after all signs of an early spring and the return of many birds, we had a terrible gale, with snow and freezing cold. Hundreds of birds perished. But on the second morning I saw literally hundreds—nobody could count them—of crows gathered on the southern slopes of my sheep pasture and the adjoining abandoned quarry, where a freak of the wind had kept the ground scoured bare. Before the storm, only the four crows which spent the winter with us had been in evidence, yet the word was passed around, evidently for miles, that here was salvation.

The crows, indeed, are masters of mobilization. Nearly every one who has lived much in the country with his eyes open has probably seen an example of this. Some years ago I was walking in an upland which ran like a deep, narrow fiord into the woods on the western wall of one of the Franconia hills. I was on my way to search for a hermit-thrush's nest. Suddenly, over my head, I noticed a crow in rapid, excited flight. He had come out of the woods to the south, and flew across the pasture and into the woods to the north, keeping close to the tops of the pointed firs and cawing raucously from time to time. I wondered if the bird which had just passed over my head were not a courier, so I sat down to wait. In a very few moments about

twenty crows, flying in irregular formation, came out of the firs to the north, went swiftly over my



A great horned owl flying low in the trees

head, and disappeared southward. Shortly after another detachment appeared, and then another

and another and another. Sometimes there were only a few birds at a time, sometimes as many as a hundred, flying seldom more than three or four abreast, their line streaming out raggedly. That first northward-flying courier had done his errand with marvelous rapidity! The birds kept coming for half an hour, I should say. They flew for the most part in silence, only the leaders cawing, as if they were crying, "This way! This way!" But a far-off noise of the gathering to the south began to come faintly to my ear, as it was augmented by new throats, birds doubtless arriving from the south as well as the north. Unfortunately, this gathering was well up on the precipitous mountain-side at least two miles away from me, and between lay a tract of forest which had been lumbered some ten years before, and even my curiosity to learn the cause of this mobilization could not induce me to attempt the passage. Any one who has wrestled with old lumber slash on a mountain-side will understand.

But such mobilizations have frequently been investigated. Usually they prove to be for the attack on some enemy. Thoreau speaks of the crows "bursting up above the woods where they were perching, like the black fragments of a powder-mill just exploded." When they are gathered for war purposes their cries will lead you to the spot where they are fighting, and these same bursts of black fragments among the trees, usually following an especial uproar of cawing, will direct you to the center of the battle. Walter King Stone, the illustrator of this book, and Charles Livingston Bull have told me of a mobilization they once witnessed,

when the crows gathered for hours, and the two observers were able to penetrate the woods to the exact spot beneath the feathered explosions. There they found a great horned owl, flying low in the trees, with a dead crow in his talons. Whether this was the original cause of the battle, or whether he had grabbed the crow in one of the descents of the birds about his head, they of course could not say. He was evidently struggling to find a dead tree where he could take refuge. He was saved probably by the coming of night. Crows have even been known to attack foxes, as Winslow Homer's painting is the most famous witness.

A farmer near my home, who has observed crows for many years and has the reputation of knowing more about them than any one else in the neighborhood, tells me that almost invariably in his experience the cause of a large mobilization is either a big owl or a hawk. The little screech-owls are also attacked, but by lesser numbers. He has also personally seen the crows attack a fox while it was crossing an open field, and once he watched a flock of nearly a hundred crows worrying a Skye-terrier dog, which was so thoroughly frightened that it was running in circles. I have seen crows attack a cat also, but the cat always is wise enough to make for cover.

Large gatherings of crows, however, are not always for defensive purposes. Beside the great winter roosts you will see flocks of from fifty to a hundred birds, during migration periods especially, which appear to be playing a game. They will wheel and circle over a field, cawing loudly, then all

suddenly settle, usually on the ground, remain silent for a few moments, and then as suddenly rise and begin wheeling and cawing again. If, at such times, you approach them, they scatter and do not collect again. If they are engaged in worrying some foe, however, they almost invariably regather. At these playtimes, too, their cawing has a different sound, less profane and raucous. Are there any other of our native birds which even appear to play?

But the crow does not escape attack, in his turn, by birds smaller than himself, upon whose eggs and young he sometimes preys—which is his real sin. Every one has seen a crow flying along a New England pasture hedgerow in June, and heard the attendant startled clamor of the smaller birds, fearful for their young; and every one has probably seen a crow, perhaps the same marauder, set upon by a pair of king-birds—pugnacious fellows who appear to have constituted themselves a police force—and driven off. They fly over the head of the larger bird, like airplanes over a dirigible, and dart down savagely from time to time. The crow never relishes these attacks any more than the hawk does, and usually flies for cover as speedily as possible. Just how much damage the crow does to the young of the smaller birds it is difficult to estimate, if not quite impossible. Edward A. Samuels, in his book on the birds of New England and adjacent states, reports some very destructive pirates which came under his observation, and the farmer referred to above declared to me recently that he had seen one crow rob two robins' nests, two chipping-sparrows'



The crow in turn is attacked by smaller birds

nest, and one meadow-lark's nest in a single hour. "I have watched crows with field-glasses from my hilltop," he adds, "again and again, and I never yet kept one in sight for two hours in breeding-season that I did not see him take eggs or young from at least one nest." This is a severe indictment, surely, and justifies us in keeping the crows from becoming too numerous. But it should also teach us to make it easy for them to get meat scraps during the breeding-season, thus preventing many of their raids on the nests of other birds. If a tame crow does not molest other birds' nests because he gets all the meat he wants, it surely shows that it is the meat he is after, not the sport of hunting. It is only man that hunts for sport, anyway. Nearly all birds and beasts are more civilized.

The last crows I have had an opportunity to observe in captivity again belonged to Walter Stone, who doesn't object to being waked in the morning. There were three of them, out of the same nest, and from them we learned several interesting facts. For one thing, we observed them disgorge food pellets, like owls—pellets from an inch to an inch and a half long—which could be examined for signs of a destructive diet. For another thing, we observed them taking, as we at first supposed, dust-baths; but they did not flutter and rub about as a hen does, but squatted quite still. Investigation showed that they thus squatted directly in large ant-hills. We could think of no reason whatever for this action, till Stone read one day that the poilus in France spread their cootie-infested shirts over ant-hills whenever possible, the ants destroying

that particular vermin. That these crows had made the same discovery seemed a logical—the only logical—explanation.

But the most interesting thing about these three birds developed after two of them, through some disease, lost enough of their flight feathers to disable them for any sustained flight. The two crippled birds and the one sound bird all roosted at night on the upper rungs of a ladder, under the eaves of the ell. One day, however, a marsh-hawk came over the garden, discovered the crippled condition of the two weak crows, and made for them. The well crow instantly attacked him, and held him off till the others were under cover before taking to shelter himself. The hawk came back presently, however, and the same operation was repeated.

That night the sound crow roosted not on the ladder, but on the ridge-pole, where he could command a view in all directions! All the rest of the summer, too, he roosted there, and by day or night he was alert for signs of the approaching hawk and at a certain warning signal his two companions would scurry as fast as they could to shelter, while he circled overhead and, if necessary, gave actual battle to the invader. There could not have been a more perfect illustration of the strong protecting the weak, of a sense of communal responsibility. These two weak crows, mind you, were not his offspring, but his brothers, yet he at once accepted the task of looking after them and bravely fulfilled it.

After such an exhibition, and after the repeated warnings of the United States Bureaus, that a whole-

sale extermination of the crows would be exceedingly unwise, as is any violent disturbance of the balance of nature, I confess the campaign of one of our largest powder-manufacturing companies, just after the war ended, to organize a "National Crow Shoot," filled me with shame and indignation. Trading, of course, on the average farmer's prejudice against crows, and the average person's ignorance of them, this powder company, solely to sell more shells (which fact they practically confess in their circular letter of January 29, 1919, to powder-dealers), goes against the expressed and matured judgment of the government experts and endeavors to slaughter all the crows it can. Powder companies have done worse things than this in the past, to be sure. They have even encouraged hatred of men. But this alone is sufficient to convince me that all ammunition-works should be owned and controlled by the government and conducted without profit.

In spite of the crow's instinct to feed on the eggs and young of other species (which he shares in common with several other birds), who would really wish to see him exterminated, even if it were possible to exterminate so resourceful a fellow? His destruction to crops is certainly far less than that of the bobolink in the Southern rice-fields. He is an efficient scavenger, and his destruction of white grubs, cutworms, wireworms, and grasshoppers is of great value. Above all, however, his place in our landscape is such that his passing would leave a dreary void. Winter or summer, we are conscious of him against the sky, against the fields, or senti-

nel on a patriarch pine. In the misty mornings of summer when the sun has not yet rolled up the curtains of cloud from the mountains we hear his voice far off in the woods, rousing us from slumber, and when autumn has come and our sugar-groves are a glory of crimson he is still there, his distant call floating down sweetly from the upland woods and intensifying in some strange way the height of the peaks beyond. He calls over the peaceful meadows of Middlesex, where Thoreau wandered; he calls from the wilderness of the White Hills, from the Long Island shore, from the rapids of Niagara, from the corn-fields of the West. The corn itself is not more American than he, no more closely woven into the texture of our memories, into our national consciousness. Probably we could not exterminate him if we would. But, after all, why should we?



Winging cheerily against the whitened landscape

THE CHEERFUL CHICKADEE

THE world would be rather a dull and dolorous place without a certain type of jovial person who leavens the lump in any community. Such a person my grandmother would have described as "a cheerful little body." The "cheerful little bodies" greet you with a smile, they sing or whistle at their work, they are frankly curious about your affairs, and as frankly sympathetic. They belong to the limited company of the immortals who get up cheerful, who can take an interest in life before breakfast, and are still interested after dinner. Needless to say, they are in good health, and very often inclined to a certain placid and pleasant plumpness. In a word, they are the human chickadees.

Everybody who knows anything at all about

birds knows the common chickadee, or black-capped titmouse, as he was perhaps more commonly called by our forefathers—the *Parus atricapillus*. And to know him is to love him. "The nightingale has a lyre of gold," the skylark pours out his melody against the blue empyrean—both made famous by generations of Old World poets. Our own hermit-thrush, who is a much more skilled musician than either, with a more exquisite timbre than even the nightingale, has no classic background to sing against, and because his song reaches its perfection only in the depths of the Northern woods in June, his incomparable melody is relatively unknown; yet echoes of his prowess have reached us all. Our minor poets have celebrated his inferior cousin, the veery. The robin has almost ceased to be a bird, and become a symbol. Edward Rowland Sill has enshrined him in poetry, MacDowell in song—a wistful song, quite unlike the buxom and ubiquitous bird's own domineering melody. Yet, in spite of all the poets have done, it is doubtful if any of us who dwell in the northeastern section of the United States, from Illinois to the sea, and even pretty well south along the ridges of the Alleghanies, would yield to any other bird the first place in our affections held by the little chickadee.

Other birds go south in winter—the chickadee remains. He, and he alone, is always present either about our dwellings or in the woods, every day in the year. Other birds are shy of man, save only that pariah, the English sparrow, and even when they build nests under our very eaves they avoid human contact. But the chickadee will perch on

our shoulders and eat from our hand. The instinct of other birds, when man passes through their leafy retreats, is to fly farther away. The



Other birds go south in winter—the chickadee remains

chickadee, when he sees us coming, flits nearer and nearer inquisitively, and either tweets a soft little greeting or shouts right out his *chick-a-dee-dee-dee-dee-dee-dee-dee*. Other birds, even the nuthatches, seek shelter in the winter storms, but the chickadee,

his black cap conspicuous in the whiteness, his feathers fluffed into a fat ball by the wind, goes buffeting through the driving snow, just as cheerful as ever, a five-inch-long epitome of indomitable good nature. He sings when all else in nature is silent. And he sings when all the woods are musical—and holds his own! He is the bird of the summer pine woods, and the snow-covered window-ledge in winter, of our forests and our dwellings. One chickadee is worth a gallon of kerosene emulsion, considered utilitarianly. Spiritually, he is a tonic that makes for cheerfulness, and there are no standards of value for that.

I have observed the chickadee for many years. Indeed, during our Berkshire winters it is impossible not to observe him; he attends to that! Nor has it been necessary much of the time to stir out of the house. We welcome the first good snowfall for many reasons, but not the least of them is because the first heavy snow brings our little black-capped, acrobatic friends into the pine hedge thirty feet from the kitchen door, and the process of forming familiar acquaintance begins. Food, of course, is the lure which attracts and holds them. Almost overarched the kitchen door-steps and one of the dining-room windows is an apple-tree. Between this tree and the pine hedge is a drive. The birds make their winter roost in the thick protection of the pines, but they use the bare twigs of the apple-tree for a daytime perch, and from this tree they descend to pick up food. Outside both the kitchen and dining-room windows we have built flat ledges eight or ten inches wide, which are kept free from

snow, and on them are placed pieces of suet and sunflower seeds. Even before the snow comes, some



The first snowfall brings the chickadee to our windows

chickadees and possibly a pair of nuthatches and a pair of woodpeckers have discovered the provender

and make periodic visits. But it requires a snow-fall to drive them up to the dwelling in considerable numbers. A day after the ground is permanently covered, however, the pine hedge is alive with them, and we see their little fat, fluffed bodies twinkling in the bare branches of the apple-tree, and as we are seated at breakfast suddenly there is a flutter of wings outside the window, and a pair of bright, bead-like, marvelously intelligent eyes look in at us. If, on this first morning, we rise from the table and move toward the window, the bird will probably take flight, dropping the seed he had picked up. But in a very few days he gets over his timidity. We can come close to the window and sit with our faces not a foot from the ledge outside, while the bird will hop about selecting a seed or pecking with his tiny, sharp bill at the piece of frozen suet with loud, ringing blows.

A bird is an incredibly quick thing in all his movements. Watch a robin crossing the lawn, and you will be hard put to say whether he runs or hops, so fast do his legs move. Watch a chickadee pecking at a piece of frozen suet, and again you will be amazed at the rapidity of his blows, and also at the muscular power in that tiny neck, which, under its deceptive ruff of downy feathers, can't be much thicker than your little finger. His whole body is scarce larger than your thumb. Bang, bang, bang, goes his beak—and then he suddenly stops, lifts his head, cocks a shiny, twinkling eye at you, swallows, looks around at the landscape, hops off the suet, hops on again, and—bang, bang, bang, go the blows of his beak once more. Birds are curiously jerky

in their movements when they are not flying. A few rapid acts—then a pause, with a change to a



The chickadee

fresh position for no reason that you can fathom. When a robin is hunting worms, he runs five or six feet like lightning, stops short, looks up to the sky, and then suddenly ducks his head, perhaps pulls up a worm, and goes on again. Even

when he doesn't pick up any worms, he alternately runs and stands still contemplating the heavens.

The chickadee hammers at suet in the same disjointed manner. But he gets what he's after. A day or two, and a pound of frozen suet will be gone—suet frozen so hard that it is all you can do to pick off a crumb with your finger-nail.

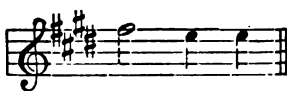


or black-capped titmouse

As soon as the birds have become accustomed to the house, to the dog, and to the human beings, we

begin the process of coaxing them into still greater familiarity. There is always one bird braver or more friendly than the rest, possibly an old fellow who was with us last season, and sometimes he will eat from our hands several days before the others get up their courage. My wife is much more successful as a chickadee-tamer than I am, possibly because she has more patience; but in the course of a long, hard winter we have frequently had a whole flock so tame that they would come not only to our hands, but to those of adults and even children visiting us.

The process is simple. My wife puts half a dozen sunflower seeds in the palm of her hand and stands under the apple-tree at the hour when the birds are most hungry. (They are comparatively hungry all the time, but early in the morning, at about our lunch-time, and again late in the winter afternoon, they make their chief meals, with innumerable snacks between.) Then she holds out her hand invitingly, looks up, and usually whistles once or twice the chickadee's song—not his *dee-dee* call, but his real song:



The chances are that several birds are already hopping and twittering in the apple-tree overhead. If they aren't, they come in a moment. Every bird has his eye on the palmful of inviting black seeds. Every bird shows unmistakable signs of excitement, hopping nearer and nearer to lower and lower

twigs, till the bare tree looks exactly like one of good St. Francis's congregations. Finally one bird, bolder than the rest, gets on the very lowest twig



He makes light of the rigors of winter

nearest the hand, and, like a small boy suddenly making up his mind to dive into cold water, plunges off. Very often he is terrified before he quite

reaches the hand, and puts on all brakes, beating back with his wings. But the bait is too tempting. The same bird, after flying away to the pine hedge for a moment, almost invariably comes back to his perch over the outstretched hand, dives again, this time alights on a finger, snatches a seed, and is off with it into the pines. The other birds seem plainly to have been watching the outcome of his experiment, for soon after two or three others repeat the operation—a first attempt which is stopped in mid-air, and a second, braver trial which results in capturing a seed. The next day these bold leaders do not hesitate. They come at once, and after a week or two of deep snow the whole flock will have become so bold that merely to hold out a palmful of seeds at breakfast-time is to bring a steady procession of chickadees to perch one after the other on your finger.

If you hold the seeds on your bare hand, the sensations of the tiny claws clutching your finger with a light yet strong grip is quite indescribable—a delicate clutch from this wild, pretty little creature of the air, this mite of puffed feathers and snapping, bright eyes which somehow warms the very cockles of your heart. Perhaps the flattery of the bird's confidence has something to do with it.

But my wife doesn't stop with calling the chickadees to her hand. After they are comparatively tame and fearless, she puts a sunflower seed between her lips, tips her face upward, and holds out her index finger as a perch a few inches from her mouth. Many of the birds will now fly down to her finger, perch there a moment, looking directly

into her face, then lean forward, take the seed from between her lips as though they were snatching a kiss, and fly off with it. I have seen a chickadee perch in her hair also, and reach down across her cheek for the seed. I have seen one on her finger and one on her hat-rim at the same moment, each taking a seed, for she held two in her lips. If there is only one seed, however, the well-bred little fellows never fight for it, at least not in our dooryard, where they are sure of plenty more. They are not nearly so ready to take seeds from my lips, but once or twice they have done so. Usually, however, they draw back when they get close; and it is a pretty sight to see them put on the brakes with their wings while their bright eyes still look hungrily at the food.

The chickadees not only take food from our hands, however, but they will even come into the house to get it. I was inclined not to believe this at first, but Katie convinced me by bidding me sit quietly in the corner of the kitchen while she set out her dinner close to the door. Then she left the door open, put some seeds beside her plate, and laid a little trail of them conspicuously on the white cloth out to the end of the table. She herself began to eat, paying no attention to the birds. Suddenly there was a whir of wings, a bird entered, snatched a seed from the table, and flew out. A second bird came, a third, and soon the trail was carried off, and Katie was eating her dinner with two chickadees actually standing on the table within six inches of her plate! Once a bird hopped up on the edge of a dish of tomatoes and took a seed out of that.

Of course, there are other winter birds than the chickadees about our dwelling—nuthatches always, for you meet few flocks of chickadees without at least a pair of “devil downheads” in friendly companionship, a tree-sparrow or two, and usually a pair of woodpeckers. All these birds feed on the window-ledge, but only very rarely can a nuthatch be persuaded to eat from the hand, and the others never. The occasional flocks of pine-grosbeaks do not come even to the ledge. They are shy and silent birds. But a pair of red-breasted nuthatches—smaller than the more common variety—have been with us for three winters now. They are an extremely ill-mannered and aggressive pair, too, driving off their larger cousins till they themselves have eaten their fill. At first they also intimidated the chickadees, but the little fellows soon rallied, came back with a counter offensive *en masse*, and taught the redbreasts their place.

How valuable the chickadees are as insect-destroyers can readily be observed by anybody who watches them. Their winter appetite is voracious, for it must require a deal of heat to keep those little bodies warm in the bleak storms and zero weather. I have seen one bird eat twenty sunflower seeds in an hour, each seed being for him the equivalent in size of an English muffin for you and me. With their short, sharp, powerful little bills they go pecking busily and incessantly all over the trees. But they are never too busy to pay attention to the passing stranger.

Not far from us there is a large country estate, with a walled garden deserted in winter. Over the

wall looks an apple-tree, and as we tramp by on the snowy road we have only to pause at that point and whistle to bring a whole flock of chickadees into



On blackberry stalks by gray stone wall the chickadees are conspicuous objects

the branches. They are the only live things visible on the white face of nature. They come down into the low twigs quite close to us, and pretend that all they came for was to pick off eggs and scale. They hop busily about, their little bills tapping, their

little eyes twinkling, and every few seconds one of them does a flip-flop to some other twig, swells up his throat, and peals out his *chick-a-dee-dee-dee-dee-dee*, exactly as if he were greeting us.

When the world is beautiful with its winter mantle, the fields white, the timbered mountains reddish gray or amethyst, and the bare, gracefully curving blackberry stalks by a gray stone wall a lovely lavender, the chickadees are conspicuous objects, in spite of their diminutive size. They are as conspicuous as a robin on a spring lawn, and far more decorative, for their little black caps and their soft, fluffy, gray bodies, swaying on a lavender berry stalk against the snow-white fields, or perched on a roadside rail fence, or on the end of a bare twig that comes into the composition like the inevitable branch in a Japanese print, seem always to tone into the simple color scheme of winter—to fit its minor harmonies. Even in the deep woods the tiny birds become conspicuous at this season. That flock of them we saw flying over the bare fields toward the pine cover is twittering and *dee-deeing* to greet us when we arrive in the hushed naves of the forest, and one little fellow, gray against the gray bole of a giant chestnut, flutters lower like a bit of animated bark, to see who's coming.

From the fact that the chickadees remain in the North the year round, it may be inferred that they are either extremely clever in securing food, like the crows, or else extremely liberal in their choice of a diet. Possibly both inferences are correct. Frozen insects and eggs from trees, weed seeds, pine seeds, and corn they can usually find for themselves, and

they devour all of them. Personally, from watching their actions on apple-trees, I believe they eat oyster-shell scale. Like almost all birds, of course,



Perched on the end of a bare twig as in a Japanese print

they are greedy for suet; and they are very fond of sunflower and pumpkin seeds. If you will try to break a sunflower seed with your finger-nail, you will realize how strong their little bills are, for they take off the outer shell with a couple of rapid motions as neatly as you please. If you follow one of them down in the winter corn-field where a few ears

have been left on the shocks, or perhaps on the ground not yet covered with snow, you will find that they drill into the kernel and extract the meat, again with the utmost neatness. In common with other birds, they must like plenty of water to drink, though I have never seen one, in spring or summer, in our bird baths. I have, however, seen their tracks about an open spring in the woods, where the pheasants also came in great numbers, and I have seen them eat ice as a thirsty dog will eat snow.

Although the chickadee is such a friendly little beggar all winter long (indeed, the season through), when he is merely engaged in the occupation of getting food and the joyous pastime of living, when breeding-time arrives he suddenly becomes highly secretive, and gets as far out of sight as possible. No doubt that is one of the reasons the species has been so successful in the fight for survival. Like the woodpecker and the bluebird, the chickadee nests in a hole. Of course they have been known to select holes close to a dwelling. Walter King Stone tells me he knew of a pair who nested in a cranny over a back stoop not more than two feet above the heads of the passers. We now have an artificial bird-box in the apple-tree by our kitchen window, and as I write (in early May) a pair of chickadees have been hopping in and out of it for several days. But so far as we can observe they have been engaged rather in taking the sawdust out than taking any new material in. The same pair have removed material from a blue-bird box near by, on another tree, much to our disgust, for a



In the hushed naves of the forest

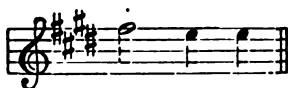
pair of bluebirds had looked the property over several times, and apparently were much pleased with it.

But for the most part the chickadees pick out a well-hidden and rather remote hole for their nest, sometimes in an old fence-post, more often higher from the ground, in a tree in the woods. Some

writers say they excavate these holes for themselves, but I have never seen a nest in a hole which didn't appear to have been already dug. The actual nest is made of wood fiber, wool, hair, fine moss, feathers, or other soft material. They take the hair where they can get it. Thoreau, who loved the chickadees and used to watch them pecking bread out of the French-Canadian woodchopper's hand in the Concord woods, records a nest in a small maple stump which seemed to be made of bluish-slate rabbit's fur. Mr. Stone has seen a chickadee taking hair from the back of a Jersey cow for two hours. If they take hair from a cow, they undoubtedly used to take it—and perhaps still do in the deep woods—from the backs of the deer. They lay a sizable number of little white eggs, with rusty, reddish-brown spots. The young birds, when they get their feathers, are indescribably adorable; but it is not often that you will see them. The male and female birds do not differ in appearance, so it is usually impossible to determine which is the mother, except in the incubating season.

The song of the chickadee is very simple, but to many ears very beautiful in its absolute definiteness of interval. Of course, the better known *chick-a-dee-dee-dee-dee-dee* is not its song. That is more like its college yell, into which it breaks at periodic intervals out of sheer exuberance of spirits. Neither is the song that tinkling little lisp with which it talks to you from the low twigs of an apple-tree as you pass by. Its song is the exquisitely clear whistle which is most commonly heard in spring, and which

is undoubtedly associated with the love life of the bird—



Some bird writers render this whistle by two notes instead of three, and Thoreau constantly speaks of the *Phæ-be* note of the chickadee. But in many years of constant residence among the chickadees of western Massachusetts I have never heard one which did not break up the second tone clearly and sharply into two quarter-notes, and Mr. Stone agrees with me in this. Nor is it true that the song is confined to spring, though it is then most frequently heard. It comes occasionally out of the depths of the summer pines or the pasture hedge-rows, and very often we hear it floating over the frozen fields of winter, an exquisite and a cheering note, the chickadees'

"If winter comes, can spring be far behind?"

F. Schuyler Matthews, in his excellent *Field Book of Wild Birds and Their Music*, says: "Few small birds whistle their songs so clearly, and separate the tones by such lucid intervals. The charm, too, of the chickadee's singing lies in the fact that he knows the value of a well-sustained half-note, another point which should be scored in the little musician's favor." Still another is that the chickadee so far recognizes the musical intervals of his song that he will answer those notes when you whistle them. We can go out into our yard at any hour of the day

in spring—indeed, during the winter, too—and whistle a couple of times, to be answered, from near or far, by a bird. After he has once answered you, he will keep up the conversation, the musical dialogue, as long as your patience holds out, like a dog chasing a stick. Mr. Matthews records a curious thing about this performance. He has, he says, frequently persuaded the chickadee to come down to a lower pitch by setting his own whistle lower, but he has never been able to persuade the bird to go back to the original one after the descent.

While it is easy for anybody to induce the chickadee to answer his whistle, comparatively few people can imitate the timbre well enough to call the birds directly to them. The artist for this book can, however, and it is a quaint spectacle which would have delighted the good Saint of Assisi to see him with a fat little fellow on his head, another on his hand, and still another on his shoulder, actually answering the whistle directly *into his mouth*! The oddest part about this performance is that no matter how many birds come to the call, first into overhanging branches and then to his person, only one of them does the replying, and that bird is the only one which appears excited. He, however, is manifestly wrought up. His feathers fluff, his movements are rapid, he is conspicuously restless.

This song, undoubtedly, is connected with the mating and domestic life of the chickadees. I have records of observations which show that a bird bringing food uttered it, that it was answered by the mate inside the nesting-hole, and that she then appeared out of the hole and took the food. Not

all of us humans summon our wives in so charming a manner!

It was an amusing incident of the Lenten season just past that our good rector, dutifully minded of



In search of food in a winter corn-field

his calling on a warm Sabbath, when spring was in the air and the stained-glass windows were lowered,

letting in perforce the natural light of heaven, preached a sermon upon the lusts of the flesh. (I have this on hearsay only, but my informant, who is also my conscience, my collaborator, and at times my cook, cannot be doubted.) As the good man thundered against those instincts which, no doubt, needs must be thundered against or we might suppose the world a really rather pleasant place, outside in a breeze-blown elm a chickadee sat and proclaimed his desire for a mate, punctuating each pulpit period with his three sweet pagan notes. It was, I submit, an amusing incident, though nobody (so my informant tells me), least of all the good rector intent upon demolishing the lusts of the flesh, seemed aware of it.

Cheerful, happy, brave, musical little bird, whom Thoreau loved and Emerson praised!

This scrap of valor just for play
Fronts the north wind in waistcoat gray,
As if to shame my weak behavior.

Like the dog, you flatter us with your friendliness, you protect our trees, you sing of summer when the woods are bare, you sing of love when the south wind comes, you put life and music into our bleakest landscapes. May your supply of sunflower seeds never grow less on hospitable window-ledges!



THE MENACE FROM ABOVE

EVERY mouse in the fields and meadows, every rabbit that crouches under the thicket, every grouse and pheasant, even fish and frogs and muskrats in the waters and the squirrels and song-birds of the forest, live under a menace from above, no less terrible to them than the Zeppelin to London, and far less effectively combated. They live under the menace of the raptorial, or birds of prey, the eagles, hawks, falcons, and owls, certain species of which are still far commoner than the ordinary person supposes, even in the settled sections of our northeastern states. The terror comes to them out of the air, it drops with the speed of lightning, and kills with extraordinary strength and ferocity. Mere size is little protection, for a goshawk will easily kill a rooster and even carry him off. That menacing shadow over the hen-yard which causes such a com-

motion on a still summer day in reality hovers over all the land of the little wild folk, by night as well as by day, and tragedy falls like the traditional bolt from the blue in open field and sedgy marsh and silent forest. On the twenty-ninth day of March, 1918, I found a strange record on my mountain-side. The body of a small skunk dangled over a bent sapling, about four feet from the ground. Beneath were snow and mud, without a track in them. The skunk showed no mark of shot, nor had there been any hunters in that vicinity. He could hardly have climbed up and straddled a sapling to die a natural death; besides, there were blood-marks on his head, throat, and back. In all probability he had been killed by a great horned owl, that being one of the few creatures I know which have any fondness for skunks, and either dropped because the owl wasn't hungry or else placed on the limb preparatory to eating, the owl having been scared away before the meal could begin. At any rate, I could see no other explanation.

It was on the eighteenth day of March this same year that I first noticed the hawks so prominent in the air. It was also the day that bird song and spring warmth were first apparent. Walking along a high-road above a pine-filled valley, I heard a loud commotion in the trees, and suddenly a score of crows burst up above the pines like black fragments of an explosion. In their midst was a bird of about the same size, which speedily made off. Four crows went in pursuit, however. I was too far away to make out with any certainty what variety of hawk this bird was, and the light was in my face, in addi-

tion. It was probably a Cooper's hawk. But I could see the four crows fly over him, and dart down every few feet to take a peck at his head. Meanwhile the crows which remained behind kept up an incessant racket in the pines. The hawk made no effort to fight back, nor did he even seem greatly annoyed. Without any attempt to dodge or change his line of flight, he gradually accelerated his speed, swung down wind, and disappeared, the four crows being left astern after about a mile. Just what he had done to annoy them I cannot say. He may have been hungry and attacked one. But it doesn't pay to attack a crow. *E pluribus unum* is their motto. Literally thousands of crows will gather in less than two hours to attack a great horned owl which has killed one of their number. As a rule, I doubt if the hawks and owls trouble the crows very much, even though their nests are so similarly placed in the tops of the forest trees.

I had hardly finished watching this little battle over the pines when, on looking upward, I saw a big red-tailed hawk (the large bird commonly and mistakenly called a "hen-hawk") sailing far aloft on almost motionless pinions. It is a beautiful flight, this of the red-tailed hawk, only exceeded in consummate ease, perhaps, by the turkey buzzard of the South, which is undoubtedly the king of aeronauts. He was sailing in great circles, apparently aimless, and it seemed incredible that from such a height he could see his prey on the earth below, even prey as large as a rabbit, not to mention mice, which are the chief staple of his diet. Yet he was probably intently watching the earth beneath, as his

great loops swung him northward (much like the connected capital O's we used to have to push across the page of our "writing-books" at school), and sooner or later he would drop from his aerial pathway and swing aloft again with his quarry.

That same day I saw a third hawk, sitting quietly on top of a large log in a pasture within two hundred feet of the trolley track. The car was moving rapidly, so I had little time for observation, but it seemed to be a red-shouldered hawk, which is a trifle smaller than the red-tailed, but rather closely resembles it, especially in habits of flight. I could see, however, that the noisy passage of the trolley did not disturb this bird in the least. He was facing in the opposite direction, with his head down, as if he were watching the ground. It may be there was some quarry beneath that log which he was waiting for. A cat at a mouse-hole can be no more patient than a hawk.

It is by no means true that all hawks are seriously destructive of desirable bird and animal life. The so-called "hen-hawk" is a case in point. Because this hawk, and the red-shouldered hawk, also, have soared in their great, beautiful circles high above our clearings since the first settlers came, and because hawks do unquestionably raid poultry-yards and kill pigeons and wild game-birds, the most conspicuous raptorial birds have had the burden of reproach heaped upon them. Yet actually the red-tailed, or "hen-hawk," does probably as much good as harm to the farmer and the community. In that monumental work *The Birds of New York*, by Elon Howard Eaton, is a table of stomach con-

tents from all the varieties of hawks and owls found in New York State, compiled from many careful investigations. In only 10 per cent. of the red-tailed hawks was any trace of poultry or game, and in only 9 per cent. any trace of other birds. The red-shouldered had a still smaller percentage. In both species 50 per cent. showed mice, and 45 per cent. of the red-shouldered showed insects. Doctor Eaton classes the red-tailed hawk as "near the border-line of beneficent birds," however, and he puts the common marsh-hawk in the same rather doubtful class, because of its raids on birds, along with the barred and snowy owls. He leaves in the unquestionably injurious class, as birds of prey which should be exterminated, only these: the goshawk, Cooper's hawk, sharp-shinned hawk, duck-hawk, pigeon-hawk, and great horned owl. They are the ones which do the real damage, both goshawks and great horned owls, for example, showing as high as 36 and 25 per cent., respectively, of poultry and game in the stomach contents examined, while the pigeon-hawk showed 85 per cent. of other birds, and the duck-hawk 35 per cent. of poultry and game and 45 per cent. of other birds. In none was there any commensurate percentage of mice or insects to balance this destruction.

So far as my own state of Massachusetts is concerned, there is no doubt that the goshawk during the severe winter of 1917-18 was the most serious menace to all our small wild game, next to the weather, and even a serious menace to our domestic fowls. Not only did this vicious, cruel, and incredibly swift and powerful bird, supposedly an

inhabitant of the North, visit regions where hitherto he was comparatively unknown in any such numbers, but he seemed to be displaying a tendency to remain, at least for all the winter months. It may be he will yet have to be reckoned as our worst winged enemy. I collected that winter a few records of his exploits from my own immediate neighborhood, which can be duplicated, probably over most of New England and New York. The total amount of his destruction was certainly huge.

For example, a single goshawk near the city of Pittsfield wantonly killed seventeen pigeons, carrying away only one of them to eat. A goshawk in Sheffield was seen by a farmer to swoop upon a pheasant in a field and kill it. Another farmer lost several hens, and on more than one occasion was close by when the raid was made, but could never get his gun up quick enough to bag the hawk. Finally this hawk killed and managed to carry off a full-grown Plymouth Rock rooster. As the goshawk stands but twenty-one to twenty-two inches high, and weighs considerably less than the fattened fowl, you can gather some idea of its power. There were numerous other records of domestic fowl and pigeon killing, and tales by the hunters of pheasants, grouse, and even rabbits slaughtered by this pirate of the air. It is fortunate for us that the bird does not yet breed so far south as this. Though a few of our woodsmen maintained that the following spring the goshawks were showing signs of breeding hereabouts, there was no real evidence obtainable that they ever did so.

Several specimens were shot that winter, one or



The duck-hawk nests on the ledges of rock precipices

two by irate farmers who watched the hen-yard, gun in hand, from a cover. The goshawk is certainly a savage-looking specimen, when properly mounted, the adult being slate-blue and gray, with black on the head, and having the longish body of the Cooper hawk, with more muscular power in it, fierce talons

and beak, and a flashing eye. Every line of him looks cruel—and is cruel. Like the mink and weasel, he butchers for the sheer love of killing, even when he isn't hungry. He and the duck-hawk are the Prussians of the bird kingdom.

The duck-hawk, fortunately, is rather rare, or at least it is rare in settled communities, because it builds its nest, or its apology for a nest, on the ledges of rock precipices (like the golden eagle), and consequently more or less requires a mountain country to breed in. The duck-hawk (which is seventeen inches long, considerably smaller than the "hen-hawk" or goshawk) belongs to the falcon family—it is the *Falco peregrinus anatum*, and practically identical with the European peregrine falcon of the romantic days of falconry, those heroic days of old which we of the modern high-power rifle and soft-nosed expanding bullet think so cruel and bloody. The falcons differ from the hawks somewhat in their bills and talons, which are even better adapted for tearing and seizing prey, and in the relatively greater length and pointed character of their wings. The peregrine falcon, or duck-hawk, is undoubtedly a splendid bird if you judge him solely by strength and speed and cunning in flight. He most often seizes his prey on the wing, and now that water-fowl are scarce he takes about any birds he encounters, dropping upon them with a suddenness that leaves them no chance for escape.

The duck-hawks often nest year after year in the same place, apparently either the same birds or young of the parent birds returning to the familiar cliff. On Sugar Loaf, a curious formation near



The red-tailed hawk dropping from his aerial pathway

Deerfield, Massachusetts, and also on the precipitous ledges of Monument Mountain in Stockbridge (the mountain celebrated by Bryant in a poem), there have been duck-hawks' nests for over a generation. The nesting-place on Monument can only be reached, as a rule, with an Alpine rope, and since the eggs are laid before the 1st of May, while

the cliff is still wet, the egg-hunter takes his life in his hands. Last year, for the first time, I did not see the birds about the mountain at all, and three ascents of the cliff with a rope disclosed nothing except a partridge's nest on a dry, mossy shelf. My observation was not continuous nor thorough enough to say definitely that they were not there, but apparently this historic pair of birds have met their end at last. I cannot help hoping so, for they took, I am sure, a tremendous toll of bird life, including, I know, many meadow-larks and flickers. Their hunting range, too, is great. I cannot say how great, but once or twice when I was on the mountain summit I have seen one of them coming from over the mountain on the far side of the valley, winging much like a pigeon, from regions at least fifteen miles away. If they hunt over a circle of only thirty miles in diameter (and probably it is very much more) the territory a pair can cover is considerable. The Cooper and sharp-shinned hawks (smallish hawks, of fifteen to eighteen and ten to twelve inches, respectively) can be told apart because the Cooper has a rounded tail, the sharp-shinned a square tail. Both may be told from the small falcons—*i.e.*, the so-called sparrow and pigeon hawks, because the falcons have long, pointed wings, the hawks short, rounded ones. Both Cooper and sharp-shinned hawks breed in the latitude of New England and New York, and even as far south as Florida. Both build nests in forest trees, the sharp-shinned selecting almost always evergreens, the Cooper taking an old crow's nest when convenient. They are true hawks in habit,



*The sparrow-hawk is a pretty little falcon that does
more good than harm*

coursing low through the trees and shrubbery in pursuit of their game and employing the cover of foliage with uncanny skill. They take a terrible toll of bird life, from song-birds up to grouse and pheasants, and in summer they are the two hawks which are really responsible for most of the chicken-stealing. I have seen one come up to an orchard

where hens were scratching, keeping the trees between him and his quarry till he was close by. Then he swooped like lightning in under the branches, seized a chicken, and rose with it, all before a man could have reached for a gun and fired. The illustrator of this book tells me he once saw a sharp-shinned hawk fly so low he seemed to be actually hugging the ground. He reached a thick hedge, simply flowed up over it, and landed in a flock of pigeons on the other side, killing two of them before they knew he was anywhere about. Personally, I disapprove of egg hunting and collecting. There are plenty of available collections for study, and most eggs would do more good as birds than as neglected "specimens" amid the clutter of a boy's den. But if the boy can be taught to distinguish the eggs of the Cooper and sharp-shinned hawks, the more he collects the better! It will not benefit his clothes, but it will help the community and all the beneficent birds.

The sparrow-hawk (a small falcon) and the marsh-hawk (which may be distinguished unfailingly by the white upper tail coverts) should both be allowed to live, perhaps—the former, at any rate. Their food for the most part consists of mice, insects, and so on, although both take a certain toll of bird life, especially the marsh-hawk. At the worst, they are South Germans, not Prussians. The sparrow-hawk is a pretty little falcon, with considerable rosy color on him, and is seen, perhaps, more often than almost any bird of prey by the average unobservant person, because he often sits on roadside telegraph poles or courses over the fields. I have seen them over the



The marsh-hawk

prairie close to the edge of the Rocky Mountains, and even in the heart of a city. Mr. Stone records that once he had a studio in Washington near the Treasury Building and a pair of sparrow-hawks came daily to a telephone pole close by and lay in wait for the English sparrows, which they apparently took to their young somewhere in a concealed

courtyard. (They often nest in hollow trees.) This would seem to suggest possibilities to those communities which are infested with sparrows. A few pairs of sparrow-hawks on every block would soon clean things up!

The marsh-hawk (which is a medium-sized bird, about seventeen inches long) has apparently the habit of hunting over a regular beat. I have records of this from points as distant as New England and Mexico (the latter recorded by Charles Livingston Bull). In each case the bird always appeared from a certain quarter, followed a definite line of flight while under observation, and disappeared at the same place. When the marsh-hawk notes some disturbance in the grass or gets sight of a mouse or young woodchuck or desirable insect, he suddenly stops, mounts a little, hovers watching, and then strikes with great speed. It is estimated that a pair will account for eleven hundred mice, small birds, and other prey in the ten weeks of incubation and rearing of a family. Were it not for the fact that something over 25 per cent. of this total is sure to be birds, the marsh-hawk would not be a bad fellow to have around. At the worst, he is listed only as "doubtful" by most ornithologists. To-day I stopped my motor beside a wide field and watched one hunting. He flew low—not over twenty feet up—and paid no attention whatever to the other birds, which were numerous. He was intently watching the ground as he flew, and when he finally struck—too far away for me to see clearly—it was at something on the ground, probably a field-mouse. On the other hand, in March, when

there were still no insects and the mice were still hidden, I watched a marsh-hawk flying over the fields beside a small pond. He found nothing, and crossed the water. On the other shore he suddenly poised himself in mid-air for a long moment, then dropped to a height of only a few feet, and shot up over a little headland of shrubs, coming down into the bushes on the other side. As he swooped, I saw several small birds, probably song-sparrows, scatter with little *cheeps* of terror into the densest part of the shrubbery. As they scattered, the hawk wheeled and dodged about, trying to snatch one out of the air. He then rose twenty feet, hovered over the spot for some time, and eventually decided it was no use, darting swiftly away. The episode, however, did not make me feel very pleasantly toward him.

Eagles are becoming so rare in the East now that few people ever see one. Sometimes they think they see one, when it is in reality the big osprey, or fish-hawk. That noble-looking and vicious-acting brute, the golden eagle, who nests on inaccessible cliff ledges, has been driven more and more into remote mountain fastnesses. But the bald eagle still is found occasionally. In December, 1917, one was seen in southern New Hampshire, and the next day one was shot in Maynard, Massachusetts, while eating a pig he had just killed. Presumably it was the same bird seen in New Hampshire the day before. Twenty-five years ago we used to see bald eagles rather frequently both in Rhode Island, along the salt ponds, and in the wilder parts of the Berkshires and the White Mountains. But they are

encountered less and less often now. You have to seek the high Rockies to find them a characteristic feature in the aerial perspective.

But the owls we have with us still. The taxidermists agree that more great horned owls were brought in the last two winters than in any season for years. In fact, the supply of artificial eyes for the stuffed specimens was entirely exhausted before the winter of 1917-18 was over. Probably this means that the severe cold added many birds from the north to our resident population. The great horned owl, or "six-hooter" as he is called in the Adirondacks, because of his "song," is the bad citizen among the owl tribe. (His "song," however, is by no means always of six hoots.) He is a big bird, standing often a full two feet high, and weighs about four pounds. He hunts by night, as a rule, but more than once he has been caught out in the daytime, and I have known of one with a crow in his talons, pursued by thousands of live crows, in full day. The crows did not molest him while he was perched, but when he attempted to fly they swarmed down upon him. It was in deep woods, and the uproar could be heard a mile away. He did not escape till darkness came. One of these big owls can easily kill a hen, or even a turkey, and on farms which adjoin the wild forests where the owls love to nest (in hollow trees or even in old crows' nests) they are often a serious pest. They also kill skunk, woodchuck, game-birds, and rabbits, as well as song-birds and mice. The call of the great horned owl is generally represented as follows: *Whoo, hoo-hoo-hoo, whoo, whoo*. It doesn't



The great horned owl, or "six-hooter"

sound unlike the long-drawn toot of a distant freight-engine. An owl on my mountain last winter invariably omitted the first *whoo*.

I have found but one record of a snowy owl in western Massachusetts, though they not infrequently come down the seacoast in winter, from their northern home, even as far as Long Island.

This one appeared a few years ago, and was captured single-handed by an old lady. She heard a commotion just at twilight in her chicken-yard, rushed out, and saw the great white bird, a total novelty to her, endeavoring to rise with her pet rooster in his talons. The rooster was putting up a good scrap, and the old lady rushed to his assistance, armed with her apron. She got the apron over the owl, and actually succeeded in getting him into the house, though both she and the apron showed the marks of the contest. One of the men-folks then appeared and killed it, and it is now a treasured ornament of the front parlor.

The barn-owl is not found in our region either, which is a pity, for he is not only one of the most humorous-looking creatures in the feathered kingdom, running a close race for first honors with the penguin and the puffin, but he is also a great destroyer of rodents, far exceeding the much-vaunted barn cat, which usually prefers milk to mice. I have often wondered why the bird societies do not try the experiment of distributing barn-owls to regions where they are not at present found. The same barn-owl, in Europe, lives in deserted castles and haunted towers and

. . . does to the moon complain
Of such as, wandering near her secret bower,
Molest her ancient solitary reign.

Undoubtedly he is also the owl who, on a certain famous and romantic evening, "for all his feathers was acold." It is rather curious that two birds so famous in Old World song and legend as the pere-



The snowy owl

grine falcon and the barn-owl should play so slight a part in our New World life. The barn-owl, at least, deserves recognition and protection. Some years ago a colony of barn-owls lived in the Smithsonian tower in Washington, entering and leaving by a broken window. Somebody mended this window, thus killing all the owls inside and driving away all who were outside at the time. A careful

and expert examination of the dead birds; the pellets, and the nests showed that the owls of this colony had been taking a tremendous toll of rodents and small pests; they had been a positive asset to the surrounding community.

Many observers maintain that the barred owl (which is somewhat smaller than the great horned, and is often called the "eight-hooter," because his call has eight notes) is now more common than his larger cousin. This is probably true in many, if not most, sections of Massachusetts, though hardly here where I live, I think, in the mountains and close to extensive tracts of woodland. The barred owl is not a robber like the great horned. He lives chiefly on mice and other small mammals, and should be protected. The following note from the illustrator is interesting and vivid.

"Once I was fishing for bullheads at night on Lake Catherine, near Poultney, Vermont, and I heard a barred owl and answered him. Inside of half an hour I had three in one tree on the edge of the lake; I could even hear them squabbling and flapping among the limbs of the tree. They kept answering me for an hour or more. When I began calling I could hear them approach down the mountain by stages—first far off, then nearer, then from the lake margin, and then an interval and the voice would come from the nearer shore, the owl having flown across. It was exciting."

I fancy that for most Americans the little screech-owl (so called, though he doesn't screech) really inspires the romance which in Europe is the possession of the barn-owl. That soft, mournful, prolonged

whistle of his, that quavering note as if he always had his *vox humana* stop pulled all the way out—*whoo-oo-oo-oo-oo-oo-oo-oo*—has been heard by all of us, winter and summer, in the still night, often from the orchard beside the house. Many a night, as a boy, I have lain in bed and listened to the owl calling from his hole in an old apple-tree, while the November wind rustled the dead leaves on the oak beside my window and a delicious melancholy stole over me. Many a time, too, I have seen, in the daytime, the face of the little fellow peering from a hole, and watched it fade mysteriously from sight as I drew near, much like the Cheshire cat when conversing with Alice. However, if you poked your hand down into the hole, it was no spirit nip you got on the finger! The screech-owl, something like the black bear, has a red phase. (The so-called cinnamon bear is not a separate species.) Certain observers have sought to explain this by differences in diet. Doctor Eaton discovered that the red-owls he examined had been eating crayfish. As the screech-owls in the Mississippi Valley, where crayfish are abundant, are more often red than gray, there would seem to be some basis for the theory. The little fellows nest in early spring, laying their eggs in New England before May 1st, and they often use an old flicker-hole. Undoubtedly, the owls could be persuaded into artificial boxes, and this should be done. Not only are they beneficial birds, hunting mice eagerly, but their faces at the nest hole by day are odd and pretty sights, and when they are caught outside the nest and puff themselves out or draw themselves up straight and thin,

to look like a strip of bark, they are excellent examples of the protective instinct at work.

Last spring, in April, we enjoyed for several evenings a curious experience. In a meadow near our farm, and beside the road under the mountain wall, suddenly appeared a flock of screech-owls. There must have been twoscore at the least. Evidently they foregather, something like crows, at the news of good hunting, and make a clean-up. This meadow, which also comprised a garden and corn-field where the corn had stood shocked all winter, was no doubt full of mice. Beginning at sundown and keeping it up till about nine or nine-thirty, the owls hunted over this field for five or six nights, and then disappeared again. They flew low, back and forth, and as they flew they kept up their quavering call, which, when they are on the wing, is fairly loud and sounds a little like a kind of mournful laughter. The air was so full of this sound, which would come rustling at you overhead, and grow fainter into the distance as the dim, receding form of the bird was outlined against the late twilight sky, that it was strangely unreal, almost as if you stood with Dante on a brink where the lost souls fluttered past. Only the shrill peeping of the hylas kept the sense of our familiar fields in April. I had never seen so many owls, of any sort, at one time before.

There is one bird not classed with the raptores which visits us in winter and must be included among those foes of animal or bird life which swoop down out of the air. It is the Northern shrike, or butcher-bird. He is purely a winter visitor in the East, and I think is growing much less common.



The dim form of a screech-owl outlined against the twilight sky

The Northern shrike is a little over ten inches in length, gray on top, with black tail and wings. On each wing is a white spot, and the ends of the tail feathers are white. He will pursue a winter bird like a tree-sparrow or chickadee or nuthatch relentlessly through trees and thickets till the poor little thing is exhausted, when the shrike kills him by a blow on top of the head and carries him off. One of his curious tricks is to impale his prey on a thorn or the barb of a fence. If you have ever found a small bird or mouse thus impaled, he was probably put there by a shrike. The captor perhaps was later scared away, or he may even have killed for the love of it, without any intention of eating his prey. One of the oddest shrike tricks I have seen recorded is that described by an observer in *Birds of New York*. This bird was hunting sparrows near the railroad yards in Green Island, New York. He caught two and impaled them on the point of a lightning-rod at the top of a brick chimney a hundred and forty feet high. A pair of field-glasses were used to verify the fact.

On a little artificial pond near my farm we have seen domestic ducks pulled under and killed by snapping-turtles (the submarine menace); we have seen fish taken by an osprey (the hydroplane menace); we have seen hens and pheasants and other creatures killed by hawks and owls (the airplane and Zeppelin menace). When it comes to cruelty, even in our little world of farms and peaceful hills and lovely forests nature has given man most of his lessons; which, to be sure, is hardly a valid excuse for man, at that.



BY INLAND WATERS

IT was the terrific winter of 1917-18, which will live in many a memory like a nightmare, with our soldiers sailing away to France, our coal-supply almost gone, and such cold wrapping the land as the oldest inhabitant had reluctantly to confess he couldn't remember. In my corner of New England we had nearly three feet of snow on the level, and for a week at a time in January and February the thermometer would barely reach up to zero at noon. At times it went to thirty below. It was in such weather that Walter Stone telephoned to me one day to come down to his village in Connecticut, just over the Massachusetts border, bringing my snowshoes. He met me at the end of the trolley, and together we started out along a back road which roughly parallels the Housatonic River. The river here, for the most part, flows with a slow, steady pull and does not readily freeze, but now it was

frozen solid from bank to bank and the ice was covered with snow, making a white, winding driveway between the steep banks and the overhanging willows. Cresting a sharp rise, which shut the river from view, we climbed a fence and moved softly across a little field. A moment later we were looking down upon the river from an elevation of forty or fifty feet, at a point where it has bitten its way through a hill, forming a narrow gorge, and flows so rapidly that even this Arctic weather could not entirely freeze it. There was, perhaps, three hundred feet of open water in midstream, a slash of black velvet in the white—of black velvet fringed with a little green watered silk as the sun flashed on the exposed edges of the ice.

His finger on his lips, my companion pointed down to the scar of open water, and, following his gesture, I saw first two, then three, then five American mergansers, quietly and busily engaged in the pursuit of a livelihood in this chill element.

We watched them, fascinated, for a considerable time. Their methods of fishing seemed to be varied, but that most employed was to work up to the head of the open water, either by swimming close to the edge of the ice and taking advantage of all the backwaters or else by climbing out and waddling up on the ice itself, and then swimming down with the current, head bent close to the water, eyes alert. The ducks would make the three-hundred-foot trip time and time again without results, till you might have supposed they were merely playing a game, coasting down the swift current, as it were. But now and then one would suddenly tip forward and under,

completely disappearing, to emerge again near the edge of the ice, lower down, perhaps to climb out and swallow what he had caught, if he was lucky enough to get anything. We were not near enough, unfortunately, to see what the food was. Occasionally a duck would fish by squatting patiently on the edge of ice, neck and head out over the water, suddenly to dive in like a small boy at the old swimming-hole when a carryall comes by on the road, while others swam about in a back-water, revolving with the eddy.

Presently we either made some noise or motion which alarmed them or else they agreed among themselves that the fishing was getting poor here (as indeed it was), for one by one they suddenly rose and flew northward, carefully following, at a height of about seventy-five feet, the curves of the river, no doubt seeking other spots of open water. It was interesting to see them take the air. The mergansers cannot rise instant—*from a standing start*, as it were. Their first motions are clumsy. Facing against the current, each one seemed to heave himself up till he stood on the water, wings out, and then he ran up-stream, his feet kicking back much like the stern paddles of an old Mississippi River steamer, till he got headway. But when the needed headway was secured those bright orange legs folded under him, the orange feet made a spot of color behind, the long body straightened out, the neck extended forward, and with a steady beat of wings the bird went by, on the level of our faces as we watched from the high bank, with the speed and the directness of the arrow which its body now resembled.



You might have supposed the mergansers were merely playing a game—coasting down the current

When they had gone we shivered, looking down at the icy, empty water and thinking of its temperature.

This bird, of course, is the sheldrake, sawbill, or wheezer of our boyhood, one of those birds we used to shoot at but never secured, for even when wounded (we were always *sure* we had wounded one) the merganser would dive and be lost to us. The loss, however, was not great, for, like all wild-fowl subsisting exclusively on fish and other live food, its flesh is unedible, which no doubt accounts for its continued existence in considerable numbers. It migrates to its nesting-grounds farther north in spring, returning late in October or November, when the immature birds, lacking the dark greenish-black head of the adult male, and with a lighter back, seem to predominate. There are two other mergansers, the red-breasted and the hooded, or swamp sheldrake. The red-breasted merganser is hardly seen by us except as a migrant, *en route* north or south, but the hooded variety—a really striking bird is the male duck, with his wonderful crest—is, or at least was, common even into the summer on swampy streams and shallow ponds, full of lily-pads and pickerel.

Much more than by the mergansers, however, my boyhood memories of lily-padded ponds in the woods are filled by the hell-divers, as we called them—the pied-billed grebes. They arrived about the 1st of April, and in those days used to remain to breed, making their nests in the eel-grass and rushes, especially the cattails. We used to push our leaky old flat-bottomed boat in among the swampy shal-

lows, looking for these nests, which sometimes were hardly more than rafts of sticks floating on the water, and lightly anchored to a cat-stalk or two. But the chief sport was to shoot at them from shore with an old muzzle-loading shotgun, not so much to kill them, for I cannot recall ever being sure that I even hit one, but to see them dive. It was popularly supposed that between seeing the flash of the gun and the arrival of the shot the hell-diver could completely submerge, and great was the quantity of explosives we used up in experiments. My present recollection is that when we saw the little splashes indicating that the shot had hit the water the bird was invariably out of sight. If we had possessed modern high-power rifles, perhaps the results might have been different, had our aim been equal to the occasion. At any rate, the pied-billed grebe—which, by the way, is a comparatively small bird, only twelve to fourteen inches long, or about half the length of an American merganser—is a marvelously expert diver, either going down with one tilt and kick when startled or submerging slowly, like a submarine, by expelling air from its lungs and air-sacs. It can, and does, rise for air simply by elevating its bill above water, beside some reed or amid the lily-pads, so that the eye of a mere man cannot detect it. Here, no doubt, is the explanation of all the mysterious “kills” we made as boys, with the old shotgun, and of the fact that even after the traditional three days we never found any bodies floating on the pond—only a fresh flotilla of birds swimming prettily about outside the rim of lily-pads. So many of our ponds and marshes have now been

drained that the grebes, at least in the nesting season, seem to me far fewer than they used to be—which is, I fancy, a fact as well as a trick of memory. Probably they go farther north to breed. The



Wood-ducks are fewer in number than they used to be

grebe species is widely distributed and adaptable, being found all the way from Argentina to Hudson Bay.

Neither is it a delusion of memory, I think, that the wood-ducks are far fewer in number than they used to be, like most other water-fowl. Gone are those wonderful days when the first arrivals at New Amsterdam found the swampy harbor shores a paradise of ducks and geese and superb whist-

ling swan. The wild rice still grows on the wide Newark marshes, but clouds of coal smoke, not geese, ascend from its midst. The pretty wood-duck, one of the duck family which is classified as "river" in distinction to the "sea" or "bay" ducks, was formerly a common summer resident of north-eastern America, and was, in fact, often called the summer-duck. But it had too many interesting characteristics—for its own good. In the first place, it could be eaten, as it subsists largely on vegetable seeds and insects. In the second place, it not only nests on dry land, but, unlike all other ducks, in a tree, a hollow tree. Finally, especially in the autumn when the woods are full of acorns and other food, it flies about often a long distance from water, quite like a grouse, and makes an even better shot. Doctor Eaton reports that in 1902, when the law prohibiting spring shooting was finally passed, the wood-duck had been practically exterminated from western New York. Since that date it is, he says, "holding its own" in that region. I am not convinced that it is even holding its own in my neighborhood, though three or four years ago a mother duck hatched her brood somewhere close to the Housatonic River in the Berkshires, and came swimming along one day close to the golf-links at Stockbridge, with six little brown ducks in a procession behind her, answering her tiller as if they had all been on one tow-rope. It was such a pretty sight that we stopped our game to watch. The wood-duck, however, not only requires hollow trees to nest in—and a tree large enough to hold a nest for a mother eighteen inches long—but it requires a

quiet sheet of water, secluded and food-bearing. Settlements are destructive both of large rotten trees and secluded waters. The wood- ducks are probably nesting farther north these days, and our chances to see them are confined largely to the migration periods. But, on the other hand, they are easily domesticated, and any one with a bit of pond or swamp in old woods could do worse than rear a few. Whether they will go wild again I do not know. Massachusetts has had little or no success in trying to propagate mallards in order to restock the streams and ponds, for the mallards refuse to hear the call of the wild. Not long ago, in a small stream behind my house, I saw two mallards swimming along, and rushed, in great excitement, to tell the news. To my chagrin, I found they had come from a barn-yard a mile away and would return to it at night. They did. A hunter would hardly have been more tempted to shoot one than he would to shoot a cow.

The so-called black duck (so called, no doubt, because it is distinctly brown) is still, I presume, the duck most often seen on inland waters or even on such marshes as those of Long Island. It winters on Long Island, and it formerly bred, more or less, in New York and New England, but now seeks, like other birds that want to be let alone, the seclusion of more northern waters. It is a smart duck, hard to kill and wary of blinds, and its dietary activities are extremely beneficent. I was always impressed by the stomach of a black duck Doctor Eaton killed near Canandaigua Lake, New York, out of a flock returning from a flooded corn-field.



The black duck is the duck most often seen on inland waters

From this duck's gullet and gizzard he took a few pebbles, snail shells, a little chaff, and 23,774 weed seeds—13,240 pigweed seeds, 7,264 knot grass, 576 dock, and 2,624 ragweed. As ragweed is popularly supposed to be the worst of all dangers to hay-fever sufferers, the hay-fever convention should certainly sit beneath a stuffed black duck, even as the Great and General Court of Massachusetts meets beneath a golden codfish! It is not, I fancy, generally realized that ducks consume so many seeds—for that matter, it isn't generally realized how large a part all beneficent birds play in holding the destructive exuberance of nature in check. The terrible and disgusting slaughter of our wild duck, especially by wealthy Northern hunters in the South in winter, is a blot on our national good sense. I knew of three New York men, one of them the owner of a house-boat, who went to the Carolinas two winters ago, and in a week slaughtered three hundred ducks. And they were all three estimable citizens and kind fathers, and could see no reason why they shouldn't be proud of what they had done. For me, I can only hope that they all breathe ragweed pollen and snifle with hay-fever to the end of their days!

I never heard of anybody trying to eat a great blue heron, nor, in the parts of New England where I have lived or spent my summers, have I ever seen anybody so lost to beauty and kindness as to shoot one. Yet they, too, like so much else that is wild and dependent on wilderness conditions, are growing fewer. This great, long-legged, decorative bird, with its suggestion always of a Japanese



*The great blue heron suggests a
Japanese print*

print, used to nest in considerable numbers some years ago in some scraggly-headed jack-pines which grew along the shore of a "salt pond" in old South County, Rhode Island. There was nothing approaching the great heronries of the swamps by the central lakes of New York, but perhaps a dozen nests could be seen each year, sagging platforms of sticks in the trees, which, by the way, soon died. Here the herons raised their families, and their fami-

lies raised a racket which you could hear a considerable way off, over the water. The pond was shallow and full of aquatic life, so that the parents never had to range far for food. I presume they took a great quantity of small crabs, which otherwise would have lived and grown to grace our own tables, but it was a small price to pay for the sight of the stately, Japanese-like birds settling into the tortured, Japanese-like trees, or standing on one foot in the shallows at twilight, waiting to spear a fish or crab with that long, powerful bill. The site of this little heronry is now occupied by a boat-house, from which a path leads up to a summer cottage on the bank. The herons are no more. The sound of the gramophone floats out over the water now, instead of the squawking of the little herons, impatient for their dinner. Somehow I preferred the herons, even to a "record" by Caruso.

But they have by no means all disappeared from our inland waters, especially in the autumn migration season, and on my last trip to the White Mountains I found them still breeding there, along the little Ham Branch. I have seen one caught, too, in midsummer, in the Berkshires, by a small boy. The bird had an injured leg, so that it could not run fast enough to take the air, or so it seemed, for its frantic beating of wings and its lopsided, limping run availed it nothing. The boy grabbed it in his arms, and held the neck with difficulty, to prevent being struck in the face by the angry bill, and after a prolonged struggle got the heron home to the hen-yard, where he placed it for the night, behind a seven-foot wire. The heron, however, recovered

sufficient powers of locomotion to take the air that night. In the morning he was gone. A slight limp in blue herons seems to be not uncommon, due to the fact, it is said, that one leg is frequently shorter than the other, from the habit of using but one to stand on. You sometimes hear people pity a "poor, lame heron" that is probably quite unconscious of any need for pity. They used to pity the mother who limped out with her one long-legged offspring from the fringe of woods along the Ham Branch at twilight, seeking, perhaps, some sort of food in the meadow, though it had all the appearance of an evening stroll. However, when anybody attempted to walk down across the meadow and get near the couple, the "poor, lame thing" displayed an agility that was remarkable, and so did the offspring. Familiarity was permitted to breed no contempt for that old bird! She was quite willing to be a decorative touch to the lovely intervale landscape, from afar; but she had no intention of allowing what the motion pictures describe as a "close-up."

It has never occurred to me to think of the little green heron as decorative. Yet I suppose he is, especially when he is wading on some mud-bar in a swale that makes in from the river, or sits on an old log in the swamp, from a little distance scarcely appearing green at all, but rather bluish, so far as there is any obvious coloration to its dusky hue. The reason the little green heron doesn't seem decorative to me goes back a long way, to my boyhood, to the popular names attached to this bird because of certain of its habits. It was then, and



The little green heron has shown a sturdy ability to look after himself

still is, a common summer inhabitant of our swampy ponds and river swales, as well as of larger lakes and clearer streams. It is a diurnal bird, and consequently much more often observed than almost any of its fellows, frequently rising from the rushes or the bank ahead of a canoe, and *qua-qua*-ing loudly as it flies off not far above the water. In fact, one of its popular names is "fly-up-the-creek," doubtless from this habit of keeping to the water path as it moves away. It lives chiefly on frogs, minnows, crayfish, and such other small fry as it can extract from the water, and builds its nest, a rough and slovenly affair of sticks, quite characteristic of its own lack of daintiness, low down in some willow or other tree by the edge of the pond or stream. I remember finding such a nest once when a small boy, and thinking with disgust that I had never seen anything more ugly than the scrawny, pin-feathered, long necks and tremendous open mouths of the little herons. But not all baby birds can be chickens or young ruffed grouse, and as the wild life both of our woods and streams has grown less and less as the years have gone on, I have learned to appreciate more what is left, particularly those humbler species, like the little green heron, which have shown a sturdy ability to look after themselves, and what appears almost like a determination to make the best of a bad situation—man and his works being the bad situation, of course—and go about their business as usual.

A larger and rather more interesting bird of the marshy waters is the bittern, or, as many folks call it, the stake-driver—not because it drives stakes,

but because from a considerable distance its love-call seems to be a single note, bearing a rather fanciful resemblance to the blow on a stake which is being driven into mud. The booming of the bittern is still a not uncommon sound by our Northern waters, from April well into June, yet it is surprising how few people are familiar with it—or it would be surprising if one did not know that more men and women are insensitive to the various sounds of nature than are listening and discriminative. If you chance to be near a bittern when he booms, you will hear a loud, three-syllabled call, something as if a big bullfrog were trying to say pump-er-loom, several times repeated. Doctor Eaton gives the syllables as pump-er-lunk, and some declare the bittern says plum-pudd'n; but doubtless it is impossible to put the curious, explosive, croaking boom into words. Even odder than the sound is the method of production, if you are fortunate enough to catch sight of the singer—not always an easy thing to do, for, though the bittern is a large bird, from two feet to over thirty inches long, it is a mottled and speckled brown, with a black streak on either side of the neck, and otherwise so protectively colored that it can stand still amid the reeds and grasses by a water-side, especially at twilight, and escape all but the sharpest eyes. It emits its call by tilting its head upward and fairly regurgitating the sound, with spasmodic contractions of the throat, as if its love-song were a pellet. Like the famous titwillow, one suspects it of indigestion rather than lovesickness. When a bittern is startled into flight, it rises with a hoarse croak

and begins to fly as if in great terror, with its long legs dangling comically. Not till it is some distance away does it get into the calm, measured, wing-beat of its true locomotion. We boys used to flush bitterns for the sheer joy of seeing their legs dangle, as we supposed, though I am not sure but we enjoyed also the later, splendid flight; certainly, in my memory, it is the picture of the receding bird which comes back to me, its wings rising and falling with rhythmic pulse against the solemn wall of pines which stood on the opposite bank of the Hundred Acre meadows, or against a quiet sunset sky over the glassy waters of Martin's pond. Unfortunately, here in the Berkshires, the bitterns seem never to have been common, and now at best we but see them at migration time. Occasionally one is said to nest here, but I have never encountered a case. They nest in great numbers in southern Rhode Island.

Every country boy knows the spotted sandpiper, which he probably calls a "tip-up," or "teeter-tail." I can remember when this delightfully odd and beneficent little bird was considered a "game-bird" and ruthlessly shot. Perhaps some people still so regard it, though it seems incredible in light of what we now know concerning the usefulness to man of the insect-eating birds. Even the quail can probably save far more food by protecting the farmer's crop than his little body can supply on a table. The spotted sandpiper is the commonest of his species in the northeastern United States, and as he nimbly bobs along on the little sand margin of a stream or pond, tipping his tail restlessly up



Every country boy knows the spotted sandpiper

and down, he is quaintly like a spry old beau on parade, doffing his hat to every passing lady. In the mating season, in early May, most country boys, especially those who live near water, have seen the male bird strut cockily in front of the female, puffing out his chest, or have beheld him soar abruptly several feet into the air, as if he had a sudden im-

pulse to be a skylark, and emit the shrill, pretty pipe of his species. We boys used to see them sometimes a long way from water, in the corn-fields or the mowing, though it did not occur to us then, nor to our parents, that they were beneficently engaged on a search for insects. The little sand-pipers, almost as soon as they are hatched, begin to run and teeter their tails, like their parents, regular little replicas of the old folks.

Once upon a time, like every other normal boy, I determined to collect birds' eggs. This juvenile instinct has, of course, been the cause of untold destruction to bird life, and should never be permitted indulgence except under careful supervision. But in my case I met with an early, severe, and discouraging setback. I attempted to secure the eggs of a belted kingfisher. Perhaps I might have done so if I had made the attempt slightly earlier, but I unfortunately waited till early in June, as I recall it—at any rate, till after the eggs were hatched. Just why I procrastinated I do not now recall, unless it was because I have always found procrastination easy. But wait I did. The nest was discovered by another boy and myself in a bank of red sugar gravel so far from a pond that we couldn't believe at first the kingfishers were making it, though we several times saw them go in and out. Not being endowed with the patience of naturalists, we did not sit by to watch them work, and did not then know that it takes them two weeks to excavate their tunnel, or that it is often as much as eight feet from the entrance to the nest. Not knowing this fact, nor the date of incubation, I set

cheerfully to work one day with a spade, attacking the sod above the bank, for the hole started hardly two feet below the top, and somebody had told me the tunnel always ran uphill from the mouth, no doubt for drainage. It did not occur to me that as I dug backward from the entrance, the soil falling down into the exposed shaft, I was constantly blocking up the passage and effectively imprisoning the mother bird, if she chanced to be in there. After about a foot or two I began to look for the nest, but no nest appeared. I toiled on till I must have exposed a trench five feet long. By that time I decided I must surely be close to the end, so I stooped down and carefully poked away the gravel and fallen loam from the tunnel and ran my little hand up it. A second later the gravel-bank resounded to a wild yell of pain as I withdrew a torn and bleeding finger. Mother kingfisher was undoubtedly on the job! By now I was mad, and, seizing my spade, I dug recklessly to expose her. A moment later and she flew up and out with an angry cry, and began to circle around overhead, while in a slight chamber, into which the tunnel enlarged at the end, amid a heaven-smelling mess of disgorged pellets composed of fish-bones, scales, and the like, and half covered with earth dislodged by my spade, were three baby birds, ugly, blinded by the sudden light, half dead with the collapse of their roof. I forgot my injured finger, and was suddenly overcome by a tremendous pity, a wave of penitence. I think I cried, for even as I watched and tried to scoop the fallen dirt away one of the chicks lay over on its side, apparently dead. I left them and the

distracted mother, and never had the courage to go back to see if they all died. I felt too sure they



*The kingfisher is extremely decorative as he perches
high over pond or river*

did. It was the first and the last kingfisher's nest I ever attempted to excavate.

Yet the people who stock their streams with

fingerling trout have no love for this big, handsome, energetic, and sometimes warrior-like bird. He is extremely decorative as he perches on a limb high over pond or river, watching for the gleam of fish below to fall upon; but he is also extremely efficient in getting the fish when he sees it. Still we could ill spare the sight of him from our inland waterways, and any close observation of a pair of kingfishers through the season impresses you with their sturdy, if sometimes contentious, independence. More than once, along the winding Housatonic, I have noticed that these birds apparently divide up the river into definite reaches, each pair of birds taking a reach, and thereafter maintaining it strictly to themselves and driving off with a great show of anger and storming of wings and striking of heavy bill any other kingfisher which comes fishing on their posted sections. I have reason to think, too, that they return in successive summers to the same fishing-ground, for I have seen a fine old male for at least three summers frequent the same tree, overhanging a shallow back-water just above the spot where a trout-brook enters the river.

There is a special lure, like that of nothing else, about the shallow margin of a pond, where the shadowed woods come down to throw their reflections over the still, dark water, reflections broken by lily-pads and rushes, where pickerel-weed grows, and water-lilies, and white arrowhead; or about the sandy margin of clean water lapping in, tiny wave on wave; or about a quiet river wandering between banks of clematis and balsam apple, dogwood, and jewel-weed, and under groined green arches of

drooping willows, bending as the earth waves deflect it into the mystery of the concealed landscape. No small part of such charm, surely, is in the bird and animal life, the snapper plopping from a log, the darting wraith of a pickerel in the weeds, the bittern's boom, the spotted sandpipers tipping a salute as they show off their speckled shirt-fronts on the little beach, the waiting kingfisher overhead, the heron sailing with slow wing-beats down the river aisle. When we lose them how much is lost! To save them, or what few of them we can save, is worth all it has cost, and will cost, for increasingly as the days go on man will need to turn from his own perplexities to the solace of the natural world, in all its fullness and all its multiple beauty.



POKING AROUND FOR BIRDS' NESTS

BIRDNESTING! What memories that evokes in almost every man who knew a country boyhood! The predatory instincts of a boy when a bird's nest is concerned is often, if not generally, regarded as a species of cruelty, a manifestation of original sin, as it were. Yet, as I look back upon my boyhood, I cannot feel that this belief is justified. There was certainly as much rudimentary scientific curiosity and unconscious self-development through the training of the faculties of observation as there was cruelty in our search for birds' nests. To be sure, the finding of the nest and the eggs was rather an end in itself; we lacked the modern psychologist's interest in watching the parents' behavior and the young birds' growth. There may even have been a low spirit of emula-

tion between boy and boy to see who could gather the greatest variety. But surely that cabinet, or old secretary top, which you and I and every real American boy of a generation ago had in his chamber, full of mineral specimens, and birds' nests on their twigs, with the eggs inside, and tiny boxes of rough garnets carefully picked up on our expeditions and treasured in the belief that they were of immense value, and perhaps a stuffed owl, and a tin box of plant specimens, and surely an emperor moth mounted on a card, and in the drawer below the precious stamp album—surely this old secretary did not bespeak our cruelty, but our curiosity. I am very sure I should hate to give up the memory of *my* collection. In fact, I have not even given up all of the collection. Gathering dust over one of my bookcases is a cat-bird's nest, on my desk as I write lies a little wooden box of garnets picked up on Mount Monadnock, and until recently my precious lumps of gold and silver quartz lay on a shelf. Alas! one evil day my wife took them all to make a rim around the garden pool, and used the shelf for the complete works of Rudyard Kipling. Yet women complain that men have no sentiment!

Still, I have to admit that any but a scientific museum collection of birds' eggs does represent a loss of bird life far greater than the gain to the collector. There are plenty of books with colored plates which will answer the purpose, too. The ideal spirit to inculcate in the boy (and the training cannot begin too early!) is a love of birds and a profound respect for their economic value, and with that a spirit of vital curiosity to see how they build

their nests and rear their families. This will employ all the detective faculties of birdnesting to the full, without imperiling the next generation of birds. Heaven knows, the birds' worst enemy is man! Nor need the fascinating sport of birdnesting, thus practised, cease with boyhood. Indeed, it can never be fully relished until mature years, when the wonders of the paternal and the protective instincts can rightly be felt. To combine with birdnesting a curiosity about bird habits and psychology, and to combine with both a relish for the charms of landscape and field and woodland in which the birds find their natural environment, is one of the peculiar and keenest delights of the naturalist—the quite amateur naturalist, it may well be, as much as the professional expert. On the purely scientific side, for instance, there is much yet to be learned about the breeding habits of birds, and the data of amateurs, if they are carefully observed, will always be of positive as well as personal value.

I have no intention here, even had I the ability, of writing a detailed description of the nests and breeding habits of our New England birds. That has been done by the competent ornithologists, with one of whose books the amateur hunter should make himself familiar. But what the ornithologists have not done—except, of course, Thoreau, in his voluminous notes—is to connect the various birds with the natural environment they choose for a breeding-place, for a home, let us say, so that the marsh or the orchard takes on an added charm from its inhabitants, and they from it. It may not be out of place, then, for even an amateur natural-

ist, whose observations are random and unclassified—who, indeed, is less of a naturalist than an idle lover of nature—to say a few words in description and praise of the fascinating pastime of birdnesting, with a note-book, as it were, instead of a box of cotton.

In the town where I recently lived, in western Massachusetts, William Brewster, the ornithologist, during several summer visits, noted ninety-one varieties of birds, all but eleven of which conceivably might, and probably did, nest there. Ralph Hoffmann, in a more detailed study, has noted in that single township, during the entire year, one hundred and fifty varieties, nine resident for all twelve months, ten winter visitants, thirty-five migrants, and ninety-six summer residents. That would make a total of one hundred and five possible varieties of nests for the hunter to find—no mean quarry—and few enough are the people who could say they have seen them all, though not as few, perhaps, as the people who could identify each of the hundred and five if they did find them! But no one need be discouraged by the magnitude of the task, because the essence of amateur birdnesting is not to achieve a card-catalogue knowledge, but is rather a lazy, humorously human enjoyment of what may chance on a May or June afternoon, when the bobolinks sing in the meadows, or the busy wrens go chattering about their house-building in the garden bird-box, or the mother partridge in the woods seeks by every artful device to lure you from your quest.

To me, the birds' nests are not scientifically di-

vided by their architectural structure, but rather by their environment, and with each environment I love to associate the feathered inhabitants. Rather a rough classification, perhaps, but to the beginning birdnester it is the most useful one, in many ways, as well as the one yielding the largest reward of general enjoyment.

First, of course, we must begin with our dwellings as an environment, including the barns and outbuildings. There are certain birds prone to nest in, on, or about them, friendly birds who can become our companions and often (like the swallows) our best friends. Then there are birds of the orchard, which may include other trees about our dwellings. These birds, too, are our familiars, and nowadays, it is pleasant to record, more and more the objects of our protection and care. Then there are birds of the meadows, birds of the swamp, birds of the pasture (the upland pastures, the cleared areas, the berry-patches), and birds of the deep woods. There are, too, birds of the river-banks—the kingfisher, for instance. Can any one think of the kingfisher apart from his stream? Finally, there are certain birds the tramper, at any rate, associates peculiarly with the roadside—the country roadside with its old stone walls, its rail fences, its brier tangles and tree hedges. Perhaps the last classification is an arbitrary one, but let it stand. The old-fashioned roadside garden, before the dust of motors and the invasion of tarvia and brush scythes, was a delectable world of color and odor and bird and butterfly life. Its brilliant indigo birds, its gay goldfinches, its melodious song-sparrows, its protesting cat-birds,



Houses and barns attract the wrens and swallows

who chose it as their home, still know where such gardens grow in the back country, and there they still nest.

Among the birds to look for as residents of the house, barn, or outbuildings are the house wren, the purple martin, the barn, chimney, and cliff swallows, the phoebe, the robin, and the chipping-sparrow. All of this group are probably familiar to the average person. The busy and domestic little wrens seldom build far from a dwelling. They will perch their nests almost anywhere—on a protected beam, behind a blind, under an eave; but if you will provide nesting-boxes for them, placed on trees or trellis close to the house—any of the standard boxes with the entrance hole the size of a silver quarter—they will select these houses in preference. For two years a pair of wrens built on a beam on our back porch, but after we had placed a box for them on a grape-trellis some thirty feet away they deserted the porch for this new dwelling, abandoning a half-built nest. They filled the box nearly full of twigs, and then lined the nest with soft material, including cotton batting, which we put on the ground near by. After the eggs were laid the mother wren stuck to her job steadily and silently while her mate fed her. He was not silent, however, but kept up an almost incessant sweet little chatter, hopping along the trellis close to the nest after he had passed in a bug to his wife, and singing his tuneless song over and over. When the little birds hatched they filled the tiny box almost to bursting. You wondered how the mother could get in and out. One day we heard a great

commotion. Both parents and all five children were making a tremendous uproar (relative to their size, that is). We ran to see what was the matter, and found that the wind had blown a branch from a near-by tree down across the entrance to the nest, where it had stuck. The parents almost hopped on our shoulders as we removed the obstruction, and the mother was up to the hole to see her babies before we were well away from the nest.

It is a curious fact that in our new home, only fifteen miles away, but out in the country instead of on a village street, we have not yet so much as seen a wren. Whether this means that the wrens not only prefer houses, but houses in villages, or whether it means they are locally distributed in Berkshire, I have not yet enough data to say.

All farmers' boys, of course, know the nests of the barn and cliff swallows—the latter built in colonies under the eaves, curious affairs, like retorts, with the neck sloping slightly downward. Most farmers, too, recognize the enormous value of swallows as insect-destroyers, and I fancy it is pretty generally a punishable offense to molest a swallow's nest. In my boyhood, as I recall, there was even some superstition attached to the barn-swallows. They brought good luck, and if you destroyed their nests evil would follow. Like so many superstitions, this one certainly had an element of substantial fact. The chimney-swifts were less desirable, because in the autumn their nests often made the chimney smoke and had to be fished out or knocked down by lowering a pine branch on a rope from the roof. Once upon a time,

of course, these swallows built in hollow trees. But a pair of them, flying over Plymouth in 1621, spied something which looked like a new kind of tree, and the breed was on its way to a new procedure.

Perhaps the fact that chimneys are safer from squirrels, 'coons, owls, and other possible enemies was a factor in determining the change. Then, too, it is undoubtedly easier to find chimneys to-day than hollow trees. I well remember, as a boy, hearing a noise in one of our chimneys and pulling out the stovepipe-hole cap in my chamber. There, directly opposite the opening, perched on a protruding brick, a swift was building a nest of sticks! I watched the whole process, fascinated by the sticky mucilage which the bird secreted in her salivary glands to fasten the sticks together, and, after the mother was sitting, gradually got her so tame—or, rather, sufficiently subdued her wildness—that she would remain occasionally on the nest when the cap was removed. My great desire was to see how she got the young birds up the chimney after they were large enough to leave the nest, but, alas! that feat was accomplished one day when I wasn't looking. I felt certain then that she must have carried them up in her bill, though I was laughed at for my belief. Curiously enough, I have never had another chance, myself, to watch. Those who have say the young birds hop and climb with their toes, following the mother.

The robin, the phoebe, and the chipping-sparrow are all birds who will often nest on our houses, but also often nest elsewhere. The tame and pretty phoebes frequently raise two broods, and build their

second nest on top of the ruins of their first. One year a pair built a nest on a beam on our dining-porch, so early in the season that we had not yet begun to eat outside. In midsummer, when it came time to rear their second brood, they tore the old nest down, letting the rubbish of moss, lichen, and hair fall directly on the table, and started building anew! We had some difficulty in persuading them to go away from there. For three successive years, too, a robin nested on our front porch, each year building a new nest on the grape-vine under the eaves, two or three feet from the site of the old one. I say a robin because in all the three years we were unable to detect the father. It was the most mysterious ménage, suggesting the thought to our maid, Katie, that the "father was probably a traveling-man." The mother, however, either was fed by faith or got enough to eat while off the nest, for she reared her three broods. She was exceedingly tame and would permit us to stand on a chair with our faces level with hers, not two feet away, and look us calmly in the eye. The fourth year she did not come back.

The chipping-sparrows, with their pretty, pert, minute little bodies, tame ways, and silvery tinkle of sound, hide their nests very cleverly, but they don't mind hiding them on a vine which grows beside a house. In one summer in our yard we found three chipping-sparrows' nests. One was so cleverly concealed about four feet from the ground in the thicket of a young cedar-tree that it wasn't discovered till long after the birds were gone, and then only because a high wind blew the branches

open. A second was hidden in a clematis-vine on a trellis. The third was about seven feet up in a richly tangled Virginia creeper on the east side of my summer-house in the garden, where I wrote. The summer-house is pierced with arches, and from my table I could look through an arch directly to the spot where the nest was. But the nest itself was invisible. The birds did not mind me in the least, but would come and go quite fearlessly. It was very pretty, after the infinitesimal young were hatched, to hear their tiny squeals in under the leaves, and to see the parents come winging to the spot, perch a second on a leaf twig, looking about for danger, and then dart in out of sight. On the same summer-house one year I placed a house for the wrens, but it was promptly leased by a pair of chickadees, who are usually shy, woodland nesters, for all their tameness through the rest of the year. As I can imitate (so can any one, for that matter) the call of the chickadee, I always whistled softly in the morning as I drew near the nest, as the male bird always did, perching on a twig or wire some twenty feet away and calling without dropping the bit of food from his bill. In answer to my call, out of the hole in the box would pop a tiny black-and-gray head, and two sharp eyes would peer all about while I came close and looked at her. If there is any sight in the world prettier than that of a mother chickadee's head popped out of her nest in answer to the call of her mate, I have yet to see it. When her mate was bringing her food, it was neither the love-song nor the full *chick-a-dee-dee-dee* call which he uttered, but only a sweet, wiry *dee-dee*.

Among the common birds who customarily nest in the orchards or other trees about our dwellings



The orchard haunts of the woodpecker in spring

are, of course, the robin, and then the bluebird, the orchard and Baltimore orioles, the great crested and least flycatcher (or chebec), the flicker, the

downy woodpecker, and the king-bird. To this list may often be added the warbling vireo, the summer yellowbird, the screech-owl, and sometimes the humming-bird. In my former yard the cat-bird, who is generally associated with the wild roadsides or pastures, was a common visitor, a pair building each year either in a red osier dogwood directly under my study window or in a tall syringa near by. But one does not commonly think of them in such close proximity to our dwellings.

The robin, being a large, noisy, ubiquitous bird, usually betrays its nest in short order. It seems to have no choice of tree for its abode; in one season, for instance, there were five nests around the house, one forty feet up on the extended limb of a pine (this nest was robbed by the red squirrels, after a tremendous battle), one in a small elm, one in a Norway spruce, and two in apple-trees. As four of the five managed to produce good-sized families, and as they came at the same time, there was a period of several days in June when it was hardly safe to walk across the lawn for fear of stepping on a gawky infant. They waddled, silent and clumsy, over the grass, they made abortive efforts to fly and got up two or three feet to low twigs, where they perched for hours, dumbly, while the respective parents went scuttering about feeding them with enormous worms. It was a busy, active, feverish time, both for the birds and for us, for we had to see that no cats got on to the place.

The bluebird, one of the most welcome of our early spring visitors, builds his nest, of course, in a hollow limb, especially preferring orchards where

the pruning has been criminally unscientific, so that the end of a branch has rotted back in the center. There was such an old tree in my former orchard, purposely left with hollow stumps sticking out in all directions, and here a pair of bluebirds nested every year, until my next-door neighbor put up an artificial bluebird-box, and the ungrateful creatures went over to that! The baby birds are very pretty, and are said to be easily tamed, though I would never keep any bird in captivity myself except a crow, which, after all, is not a captive, because he roams the place. In my present orchard all the trees are full of holes, and I hope all the holes are going to be full of bluebirds.

Like the bluebird, the great crested flycatchers nest in old apple-tree cavities—often in the same ones the bluebird has used. That pretty year-round orchard-dweller, the downy woodpecker, also lives in tree cavities, but he insists on making his own hole. Not so his big cousin, the flicker. The flicker will make a hole if necessary, or he will use what he finds to his purpose. We had in our yard a huge hickory, cut off by lightning years ago about twenty-five feet from the ground. The tree was evidently partly hollow and a tin cap had been nailed over the break. Before we took the place some bird had drilled a hole about a foot below this cap into the tree, a flicker, perhaps, as the hole was as big as a silver dollar. The first winter we were there a screech-owl lived in the tree, and his mournful whistle made melancholy the still winter nights. But he did not nest there, and in the breeding season the tree was pre-empted by a pair of flickers,

one of whom had the most curious habit. He would go in through the hole with material for the nest, and presently, as I would be working in the garden, I would hear a tremendous drumming as if a small boy were beating a dishpan. It was the flicker, on the inside of the tree, banging away at the tin cap. Whether he wanted to let in more light to the nest or whether he merely did it for amusement I cannot say; but sometimes the racket would be kept up for fifteen minutes on a stretch. It was impossible to look into this nest, and we never saw the young birds, which, if hatched successfully, got out while we were away from home.

The least flycatcher, or chebec, as it is sometimes called on account of its reiterated, almost metallic, and nerve-racking pair of notes, makes a cunning little nest, usually on top of a crotch on an apple-tree, or even saddled on the straight limb. It is a tame little bird. I recall in my boyhood one nest that was on a limb not over seven feet from the ground, and the mother grew so tame she would remain on the eggs while we pulled the limb down level with our face and looked at her. In this way we saw the little birds during all the periods of their nest life, and watched them grow. To see their yawning little cavities of mouths open as we children poked our faces to the nest was a rare delight. I have taken less delight in the least flycatcher in recent years, since a pair built close to our sleeping-porch and began to reiterate *che-bec, che-bec*, every morning at about three-thirty!

If you have ever set out deliberately to find a ruby-throated humming-bird's nest, and have suc-

ceeded, you have done better than I have. It certainly requires patience and the eyesight of an Indian, two virtues I do not possess. Walter King Stone, who has done it (he showed me one of the nests by way of proof), says you must employ the methods of wild-bee hunters, and by a series of observations of the bird as it leaves its flower feeding-ground you may ultimately reach its home. The nest is a beautiful bit of bird architecture, saddled on a limb, and plastered outside with gray lichen to color it protectively. This lichen seems to be fastened on with fiber from caterpillar cocoons, and the inside (little larger than a big thimble) is soft and woolly. Only two eggs are laid. The new birds are more like naked bugs of some sort than birds. I had a chance once to watch a nest of them when I was a boy, for the parents built in a syringa-bush directly under a window in our house near Boston. There was a honeysuckle-vine close by, and all summer the flash and hum of the pretty creatures made the veranda more delightful.

In my boyhood, too, the Baltimore orioles, who hang their wonderfully clever, pendent gray nests like platinum eardrops from the very ends of branches, used to favor especially the elm-trees over the village streets. I would see a dozen of them in process of building on my way to school late in May, and often we put out strings or fine strips of cotton for the birds to use. But, though I live now in a town famous for its elms, I do not see many nests hanging over the highway. The birds seem to have retired from their favorite trees, and now select the orchard to build in, or at any rate

elms which stand back in the fields. I have wondered if the automobile is not responsible for this. Has any one else observed the same condition?

The birds of the meadow, the wide, smooth stretches of tall grass and sunny spaces with a winding river or a pond in the distance, the reaches where you stand "knee-deep in June," are a gay and pleasant lot. Their very names are musical—the bobolink, the meadow-lark, the bob-white, and the humorous if not musical tip-up.

But it is one thing to see the black-and-white bobolinks darting in flocks over the meadows, or to hear the piercingly sweet song of the lark pouring from an elm by the swale at sunset-time, and quite another matter to find their nests. The bobolink, meadow-lark, and quail (we have, alas! practically no quail in Berkshire) all build their nests on the ground, in the long grass, the first choosing usually a spot where the ground is fairly damp, the last often a spot close to a hedge of bushes or shrubs. Moreover, their nests are woven of grass, and the lark always and the quail often weave a protecting arch over the nest, still further concealing it. Our golf-course is on a fine river meadow, and the fairway runs between strips of tall grass. It is alive all summer with both bobolinks and larks. I have even seen a bobolink chase after a ball, flying down to it on the ground to investigate. The caddies go poking for wild shots into the tall grass constantly. Yet few nests are ever found. Last summer the mowing-machine was running along within ten feet of the fairway, at a point where sliced drives are constantly entering the rough, and the knives

cut through a lark's nest, killing all but one of the young birds, who were half fledged and looked curiously the color of buttery chicken broth. The poor mother escaped and went crying piteously about the spot, while the driver of the machine looked as if he were about to burst into unmanly tears. Without this tragedy the nest would probably never have been discovered, in spite of its proximity to seventy-five or a hundred golf-players every day, many of them searching for balls in its immediate vicinity. The larks appear to run a bit through the grass before rising to flight, and to settle on the nest by the same method, thus throwing an enemy off the track. But if you sit patiently near the spot where you have seen a lark or a bobolink rise, marking the place carefully by some conspicuous weed, and then watch the bird return two or three times, you can get a general line on your quarry and by patient searching find it. The meadow-lark's little thatched house, looking more from the top like a ball of grass than anything, with its gawky, long-necked, yellow chicks inside, is well worth finding.

The red-winged blackbird and the marsh-wren are perhaps the commonest and most interesting dwellers of the swamp, though the swamp-sparrow, the bittern, and the coot are also common. The blackbird, in our part of the world, is a most conspicuous spring visitor, arriving early in flocks and making lively the air over the sedgy borders of our streams and ponds. There is no general rule observed by them in nest-building, except that they select some spot near water, preferably in a swamp.

Radclyffe Dugmore has photographed a nest in a wild-rose bush. I have found their nests in alders frequently, and by no means always near the ground. But, as a general thing, they are low builders, and often hang their woven baskets of coarse grass lined with hair between three or four cattail leaves or reed stalks, directly over water.

The marsh-wrens build a more elaborate nest—or rather, they build several nests. If you find one, you are almost sure to find others near by, some of them, it may be, not finished, some quite completed. They are all built, however, by the same pair of birds, the general theory being that it is done to confuse their enemies. The nest is an interesting construction, rather globular in shape, woven of fine reeds and grasses in and out among the tall reed stalks which support it, so that these stalks are incorporated into its structure. Sometimes it resembles in shape a huge Bartlett pear impaled on a bunch of cattail spikes. The entrance is always in the side. If it is the long-billed marsh-wren whose nest you are after, you will probably fare ill without hip rubber boots—and possibly then! The smaller, short-billed marsh-wren, however, often builds a similar nest (with much whiter eggs) on drier ground beside the swamp, rather than directly over the water. Both varieties have the jolly wren quality of bustle, and go chattering and scolding about on the cattail tops, often gathering the fluffy seeds of last year's blossoms to line their nests with.

It is often but a step from the swamp where the red-wings and the marsh-wrens build to the open

river where each pair of kingfishers have taken as their domain a certain stretch, and woe to the fisher from down-stream or up-stream who poaches on their preserves! Here, if you are clever, you may find their nest, not always near the stream, however, and without any cleverness at all you may find the nest of innumerable bank-swallows, if a colony of them happen to have settled in the sandy or clayey shelf where the river has cut sharply into the soil. From the opposite shore, their colony of nests looks like a picture of some abode of the ancient cliff-dwellers. But the kingfisher, also, who spends his days so proudly and conspicuously aloft in the topmost tree branch over the stream, builds his nest by digging a hole into a bank, sometimes a gravel-bank some way from the water. He spends often a couple of weeks at the task, boring in occasionally as much as eight feet. When a kingfisher bore was discovered near the top of the bank we boys used to dig in from the surface to see how deep the tunnel ran. At the end of it would be the eggs, or the young, directly on the ground without any soft nest, amid a filthy mess of droppings and disgorged fish-bones. It isn't pretty to lift the lid from the domestic life of the kingfisher. Neither is it pleasant to put your hand into a nest, when you haven't got quite to the end of the tunnel, and have the mother bird nip your finger with that bill which can snatch a pickerel out of the water!

The birds of the deep woods are many and their nests, perhaps, the hardest to find. Here breeds our loveliest American songster—and perhaps the

loveliest songster in the world—the hermit-thrush; and here, in mating-time, especially on the fir-clad slopes of our Northern mountains, he pours out his indescribable melody, while the sunset makes magic stained-glass windows down the cathedral aisles of the hemlocks. Here breed the Wilson, or the veery. Here the whippoorwill lays his eggs on the ground, and in the rare event of your discovering them (so well protected are they in color) he (or rather she) simply moves them elsewhere. Here the chickadee goes to raise his family in a hollow stump, here the partridge builds his simple nest of leaves and a few feathers at the base of a stump, the crow builds on top of last year's nest in a tall pine, the oven-bird makes his curious covered nest on the ground and screams *teacher, teacher*, if you come near, the wood-pewee sounds his sweet, sad, andante little call to his mate, and the red-eyed vireo and many of the warblers customarily breed. Walking through the woods, we are not, as a rule, aware of the great quantity of bird life about us. We hear the thrushes, to be sure, though it is seldom enough that we see a hermit, and the drumming grouse arouses us. But until we go with our ears and eyes alert for the birds, especially the chickadees and small warblers, we often think of our woods as deficient in bird life compared with our fields or yards. Perhaps that but shows how wise the shy birds are in choosing the forest for a nesting-place. And there is such a bewildering multiplicity of branches for the eye to search in, and when you draw near the thrush whose call you have heard ringing through the hushed forest, he but flutters, invisible, farther



Sounding his sweet, sad, andante call to his mate

away, and you pursue the vocal will-o'-the-wisp through dim aisle after dim aisle, till the search seems hopeless. Indeed, it requires a rare combination of woodcraft and patience and not a little luck to be a birdnester in the deep forest. Yet what a reward for patience when you can suddenly start a

partridge out from under the cover of a fallen log, or the base of a tree, and, unfooled by her running off with a pretended broken wing, go to the spot and find there, in a nest of leaves half hidden under the ferns, perhaps a dozen creamy white eggs or even, if you are very lucky (it has never happened to me), the young chicks. I say very lucky, because the chicks leave the nest practically as soon as hatched, and, if you do not find the eggs, what you will probably have seen instead is a scurry of little dark puffs of feathers in under the protecting foliage of the forest floor, the mother having attempted to divert your attention till her wise babes could hide themselves. The baby grouse very soon learn to fly—in about five days, it is said. Thus the period of gravest danger for them is reduced to less than a week, since they spend no time in the nest. No doubt that accounts in large measure for the persistence of the breed. But even after they are well grown they must often stay by the parents, for on the Crawford Bridle Path up Mount Washington, before it breaks out of the woods above timberline, the partridges are extremely tame, and I have approached within six feet of a family of eight or ten, led by a big cock. They went on feeding quite undisturbed, scratching up the mossy soil with soft little *coots*, like gentler domestic hens, and all following behind the cock.

There is nothing, to me, more fraught with charm and delightful associations than a New England upland pasture, a pasture of irregular outline, with capes of fir and birch jutting into it from the surrounding forest, with a mountain going up above

and a long green valley dropping away below, perhaps to the distant white spire of the village church, with patches here and there of raspberry and blueberry and huckleberry bushes, and cow-paths amid



The Blackbirds make lively the air over the sedgy borders of streams and ponds

the fragrant sweet-fern, with thistle tops and steeple-bush to prick the field with pink, with the tinkle of a distant cow-bell—and, as the sun is sinking in the west, the fairy flutes of the white-throated sparrows! It is on the edges of such pastures that the white-throats (or Peabody birds) build their nests, from the Adirondack and White Mountains northward. I think they infrequently nest farther south. In

parent bird would sing, once, perfectly, and then, in a feebler tone, the baby (both birds plainly visible not twenty feet over my head) would attempt the same thing. Sometimes he would jump the fifth correctly, sometimes he wouldn't come within two notes of it; and not once, in the entire hour, did he get the succeeding intervals with accuracy. But the parent bird, fluttering from twig to twig about him, kept opening her white throat and pealing out the perfect song, and the little bird kept trying to copy it. I suppose she wasn't really teaching it, because she had no blackboard nor piano!

The cat-bird, that sleek, elegant creature of gun-metal hue, also builds in the pasture bushes, hiding his nest rather neatly in under an overhang of branches, and choosing, if possible, a spot near berry-vines. Perhaps that is why the pair I have spoken of selected my yard, where raspberries were abundant. They were serious robbers of the raspberry crop, and during the breeding season one or the other parent became a serious nuisance almost every day by getting some silly idea of danger into its head, and mewing for an hour on a stretch, like a distressed cat, fluttering meanwhile from the ground to the bushes, from the bushes to the ground again. The chewink is another bird to look for in the pastures, and the field- and vesper-sparrows, and the night-hawk, which, like the whippoorwill, builds no nest. The field-sparrows raise two or three broods, in grassy nests on the ground, and when disturbed you will see them running away along the grass, uttering a sweet, plaintive little note, more a complaint than a protest.

No doubt it would be proper to classify with the pasture birds the birds of the roadside, but the old country roadsides of America were (and often still are) such distinctive spots, such long, natural wild gardens and careless hedgerows, that one likes to associate certain birds with them—such as the indigo-bird, the gay goldfinch, the scarlet tanager, the song-sparrow—how often he perches on the topmost twig of a little tree just over the wall as you tramp the roads in spring, and pours out his melodious song!—and the brown thrasher. The song-sparrow, like so many other sparrows, builds a grassy nest on the ground, and because of his tameness he often places it beside a back road, just under the overhang of the bank, thus gaining a perfect weather protection and screening his nest from the view, also, of marauding crows or hawks overhead.

The goldfinches, which are equally companionable birds, are great seed-eaters. They come with their peculiar, dipping flight in small flocks to my long cosmos bed, and sway on the bending stalks while they peck at the seed-pods I have been too careless or too busy to snip off. Their bright yellow bodies on the tall stems, amid the great pink and white blossoms, make a delightfully Japanese picture. Their choice of the roadsides for nesting purposes, of course, is probably due to the large variety of seeds available near at hand, and to the fact that they use thistledown to line their little cup-shaped nests with, in the crotch of a bush or small tree. They seem to wait until the thistles have burst, in fact, before breeding. Near my home is a tangle of wild sunflowers and thistles, made by the intersec-

n of two back-country roads after the old-fashioned manner, and over this pretty, natural bed the butterflies and goldfinches hover long, while almost always, in near-by trees and bushes, a nest or two may be found.

Maps with the roadsides, too, should be associated with the bob-white, in the fortunate regions where they still be found—with the split rail fences especially which used to line the country ways.

On the pasture side of such fences, in the shallow valleys lined at an intersection, where the reaper could never get to disturb the tangle of grass and sweet-fern, the quail used often to nest. But alas! both the fences and the quails are fast disappearing now.

The female of the indigo-bird is dun and inconspicuous. It is her mate who perches on a telegraph wire or tree limb, over the road, and attracts your admiring attention. But when you try to follow him into the tangle of bushes or weeds along the roadside below, to discover the nest, you will probably find that he is leading you a chase. He never seems to go directly to his mate. Indeed, one of the most interesting things about birds at nesting-time is the precaution taken by the average male bird to reach the nest without detection. I have seen even a chipping-sparrow fly to half a dozen perches, some of them ten or fifteen feet from the nest, while bringing a fly in its mouth, and from each perch look all about cautiously before finally going in to the right spot.

Such are the environments some of our more common Eastern American birds select for their nesting-places. The list might be indefinitely extended, of

course. But what I have sought to do is to connect familiar birds with particular landscapes, to which, when once recognized, they add another element of individualizing charm; and to inspire in a few more readers, perhaps, the gentle love of watching birds at their mating, their nesting, and their difficult parenthood. Even if you have not the opportunity nor patience to watch a marsh-wren's nest, or search for the odd little igloo of the oven-bird, you can probably aid the wrens and the bluebirds to select your dwelling or your yard for their abode, and once you have watched a family of wrens being brought up, or tamed a chipping-sparrow to remain on her nest and take a cutworm from your hand (it is of no use to try to tempt her with a potato-bug), you will never regret your trouble.

THE QUEEN OF THE SWAMP

EVEN Matthew Arnold, who once spent a summer in Stockbridge, condescended to speak a good word for the Berkshire flora. Perhaps, after that, for any one else to commend our wild flowers is to paint the wood-lily. Yet we have certain gems that possibly even Mr. Arnold did not find—in person, at any rate—and certain secret wild gardens which his British boots did not invade to sanctify—places which are nevertheless full of woodland sweetness and dappled light. There is, for example, Bartholomew's Cobble—not a difficult spot to find, should I tell you how to reach it, which I have no intention of doing. Bartholomew's Cobble is a limestone formation rising in sharp little cliffs directly out of a sickle-shaped bend in the river, its white promontories picked out with green moss and crowned with pines and cedars. Back from the edge of the banks the cobble is a maze of flower-sprinkled lawns—the close, clean pasture turf which is found around limestone—running in and out among white ledges and gray boulders, sentineled by pines and dark, trim cedars, and bordered, along the rocks, by beds of fern and banks of moss. It is here that a woman once found that hybrid between the walking-fern (*Camptosorus*) and the ebony spleenwort (*Asplenium platyneuron*), called the *Asplenium ebonoides*.

This is the only station for it ever discovered in Massachusetts, and after her report our leading botanist spent days on his hands and knees crawling over Bartholomew's Cobble, looking for more.

Perhaps you are not excited at the prospect of discovering a hybrid between the *Camptosorus* and the *Asplenium platyneuron*? To be quite frank, I am not incapacitated myself. But that is simply because ferns are not my hobby. If they were, this rare hybrid on Bartholomew's Cobble would no doubt affect me as a hitherto unrecorded first folio would affect a bibliophile, or the discovery of a mahogany highboy in an old barn would act upon the collector of Colonial antiques. At any rate, I can appreciate the rare and odd beauty of the setting, the effect of trimmed lawns wandering among the gray rocks and the pines, with open vistas of the curving river, the meadows beyond, the distant dome of the mountain.

For one to whom ferns are something of a mystery, almost any spot on the ledge of the mountain where it makes its first leap up from the pastures along my road will prove an alluring garden. Here the purple cliff-brake (*Pellaea atropurpurea*), rare only in regions where limestone is rare, but consequently unfamiliar to many people, raises its dark little fronds on their black, hairlike stems, and there are many other ferns besides, from exquisite toys, hardly two inches long, in mossy niches, to swaying maidenhair and tall, evergreen ferns. Here, in spring, the early saxifrage puts up its white clusters from the clumps of moss, delicate harebell plants sway out from the cliffside crannies, and

columbines shake their heads to an invisible wind. Here, too, you will find the *Clematis verticillaris* trailing its blue blossoms over the ground or low shrubs, and here a carpet of fringed polygalas. Here, too, are pink lady's-slippers, and later the white, red-eyed baneberries and the smooth, false foxglove. It is a lovely cliff, extending along the mountain for several miles, at times within a few rods of the highway, at times half a mile back, shadowed with birches, chestnuts, maples, butternuts, white ash, and evergreens, and always flecked and streaked with cool, moist, green moss, and artlessly adorned with fern and flower. It amuses me sometimes on a summer day to see how many motors rip along the highway, the occupants quite unaware this garden runs beside them. But perhaps they would be indifferent to it if they did know it was there.

Not many people, however, can remain indifferent to a showy lady's-slipper (*Cypripedium spectabile*). Any orchid commands respect from almost anybody, and orchids, as a species, have commanded extravagant devotion from a few. Of all our native New England orchids, of course, the showy lady's-slipper is the most beautiful; it is, indeed, the queen of our wild flowers, more beautiful, even, than the fringed gentian, and infinitely more rare. Its peculiar habitat makes it extremely difficult of cultivation except by experts with facilities to create the proper conditions of soil and moisture, and in a wild state it seems to be as averse to maintaining itself against the inroads of civilization—or as unable to do so—as the beaver or the varying hare. It is the secret queen of the deep swamps,

and those of us who are its worshipers are yearly growing more and more loath to disclose its hiding-place to alien eyes, not from any desire to maintain an exclusive aristocracy, but because we have learned from bitter experience that a showy lady's-slipper garden publicly discovered is a garden gone, to a greater degree, even, than in the case of the arbutus. We guard our secret to guard the very life of the plants.

The *Cypripedium spectabile* comes into flower with us about the middle of June, and very often while the swamps are still wet. (I am aware that the wild-flower manuals say the last of June, but if you search for it then in our swamps you will generally find but dried or faded flowers.) You search for it clad in hip rubber boots, and you find it, if at all, not without tears (*ea* as in rip) and sweat. Entering the swamp by a dim trail, the remains, perhaps, of an old logging-road, you pass borders of tall, fragrant brake and gracefully bending sprays of Solomon's seal, some of them six feet long. At first the woods are tolerably dry, and meadow-lilies (*Lilium canadensis*) grow gaily in the gloom. Then the dim trail gradually vanishes, by what seem like two or three forks, each leading to nowhere. You are in a tangle of thorny, ripping blackberry canes, through which you tear your way to plunge almost hip deep into black muck, or to find yourself full in the midst of a great bed of royal osmunda ferns. Now every vista of the woods looks like every other vista. Nowhere does the sense of direction fade so quickly as in a dense swamp. Trees are all around you, hornbeams,

swamp maples, pines that cling to hassocks which lift them enough above water-level to enable them to survive, larches. To avoid the black ooze or the streams of dark water that never seem to flow, giving no aid to the sense of direction, you try to leap from hassock to jiggling hassock of the swamp grass, or the clumps of matted fern roots. Sometimes you do not succeed. Around your face buzz mosquitoes and tiny, annoying flies. You are extremely warm, for there is no breeze in here, and being rubber clad to the waist on a hot June day does not make for comfort. The vast uniformity of the swamp, and the slight distance in which your eye can cover the ground in any one direction, give to the searcher who does not know his country well, or is new to the game, a sense of hopelessness. Which is as it should be.

We did not know the swamp we entered one afternoon last June, and after beating it from end to end—a matter of a mile or more—and back again, in vain, I advocated giving up the search. My reason, however, was not discouragement. It was the exhaustion of my tobacco supply and the inexhaustibility of the mosquito supply. Only one woman in the party opposed my suggestion, but what are two men against one determined woman, especially when the other woman is neutral? We went back.

The sun was getting down into the west and I had gone twice into the muck over my boot-tops when I suddenly heard a soprano cry of triumph off on my left. Leaping as rapidly as I could from tussock to tussock (which is, by the way, the safest method by which to negotiate them), I came out

into a small partial clearing, filled with a tall, rank grass, almost waist-high. In the center of this clearing, her yellow hair disheveled by the undergrowth she had fought, her face flushed, but her eyes aglow with rapture, stood the determined member of our party. Even as I came into the clearing from one side the other searchers entered from the opposite shadow. Then, as the golden light of afternoon struck in over the tree-tops and made the tall grass golden, too, the four of us stood side by side and gazed upon the little gathering of woodland queens.

There were perhaps a dozen of them, rising on their tall, straight stems, from between the bright green, recurving leaves, till they bore their beautiful blossoms well above the golden grass-tops, fairy white slippers tinged with pink, each with its green-tinted, white lateral petals and up-pointing sepal worn like a three-pointed coronet. They were, indeed, the proud heads of queens, but cloistered queens, secluded, shy, and slimly beautiful. We touched them tenderly, and stooped to inhale their delicate perfume, which is less a perfume, perhaps, than a concentrated exhalation of the swamp verdure and richness. We picked just one, as proof to a skeptic world that we had found what we sought, and, after lingering till we had our exact bearings fixed for another season, we moved out of the swamp to a point where we could gain, unseen, a detour to another road. Our boots were hot and wet and excessively heavy. Our skirts (employing the domestic plural) were muddy and bedraggled and sagged with the weight of moisture. Skirts are most certainly not the costume for bog-trotting. Our hands

were scratched, our faces swollen and itching, and I had no tobacco for my pipe. Wearily we clomped along the road. But in the lead clomped she of the golden hair and determined ways, and in her hand she bore like a banner of triumph—when she didn't hold it like a baby!—the long green stem with its big plaited leaves, and its blossom beyond compare. Four foolish folk we were, and happy as only they can be who have found the *Cypripedium spectabile* in the depths of its brooding swamp.

FORGOTTEN ROADS

TO find and follow an abandoned road is to read a half-obliterated record of the past, full of gaps inviting speculation, and alluring, if wistful, revelations of a vanished day, it may be even a vanished society and manner of life. Our Berkshire Hills are pathetically rich in such abandoned roads, and they make to-day by far the pleasantest trails for the trumper—that semi-extinct species of biped who still exists in isolated specimens and spends his vacations slyly avoiding the traveled ways and the eyes of motorists. Occasionally he is even found in small groups, or herds of as many as three or four, most commonly, perhaps, in the White Mountains, but even at times in our part of the world. Even when in a herd, however, he is a shy animal, consulting his contour maps frequently to discover the worst and consequently least frequented roads, and rejoicing more over the one village that is lost and never found again by summer residents than over the ninety and nine which boast palatial inns. For him these scattered records of our forgotten roads. His feet, and his alone, are worthy to brush their grasses and his hands alone to part their meeting alder screens.

My first acquaintance with a forgotten road in western Massachusetts was made twenty years ago, when, in my college days, I was on a tramping trip

through the so-called Beacon Hills which lie just to the east of the Hoosac Tunnel, between the gorge of the Deerfield River and Vermont. The villages amid these hills are far above sea-level—is not the cemetery in West Heath said to be “the highest point of cultivated ground in Massachusetts”?—and reached by highways which lead up from the river and railroad over thank-you-marm rapids and beside tumbling brooks. The road from Monroe Bridge to Rowe rises something like a thousand feet in one mile, which is considered a bit of a grade, even in those parts. It is not abandoned—but it ought to be. Before the Mohawk Trail state highway over Hoosac Mountain was built, the descent into North Adams was nearly as severe. From the eastern mouth of the Hoosac Tunnel there is an abandoned road which leads northeastward toward Rowe. It runs past a cellar hole or two, climbing steeply, and suddenly walks into the back dooryard of a farm, apparently entering the house. But if you go around the corner you discover that it has done the same thing, and then become a living highway, though a grassy one. It keeps on past several upland farms, growing less grassy with each, till it comes down the hill and over the brook to the front porch of the Rowe general store and post-office.

When I got to the Rowe store, twenty years ago, I bought Boston crackers and sage cheese (both of which could still be procured in those happy days), and entered into a conversation which resulted in my spending two weeks in that delightful sky village, where a hundred years before Preserved Smith had preached in the “old center” farther on up the

hill, discoursing liberalism and dispensing with the covenant for almost a generation before he was found out by the orthodox down on the plains and called to account. The "old center" discloses, like so many of our hill towns, plentiful evidence of a vanished prosperity and comfort. Up there are two fine Colonial dwellings, one of them with arched ceilings, and a ruined town house and church, each of which could seat, with room to spare, the entire present population of the township. Long ago the town got its name because a Mr. Rowe, merchant, of Boston, offered a bell to the church if the citizens would rename their town after him. Previously the name had been Myrafield, said to be a "corruption" of My-rye-field. A settler in Charlemont, a town down in the Deerfield gorge (the birthplace of Charles Dudley Warner), cleared a patch of beaver meadow up in the hills, where he planted rye. When asked where he was going he would reply, "Up to my rye-field." Hence, when other settlers followed and built houses up here on the pleasant hills, the name clung. Such, at least, I was told in the Rowe general store and post-office, and I like to think it is true.

Between Rowe and Charlemont, in the direct line, lies a mountain, Mount Adams, something over two thousand feet high, and noted for its blueberries and raspberries. One day the then successor to the Reverend Preserved Smith asked me if I would like to see how the first settlers went to and from Charlemont, and thence down the river to Deerfield, and so on to Boston. It was, I well remember, a lovely late September day, almost October, and

we set out directly for the mountain, over a steep pasture and through an orchard full of Porter apple-trees. For a time it seemed doubtful if I should ever get any farther, for a ripe Porter, sun-kissed and exuding its incomparable odor, is like nothing else on earth. Also, it makes by far the best apple jelly, as all old-time housewives knew. Yet, to-day, I cannot find it stocked by any nursery, presumably because the fruit does not pack and ship well—as if we were to grow no apples for our own home use!

But I digress. Even to-day the mere thought of a Porter apple delays me, as the apples themselves did that morning. Ultimately, however, we got started again, and entered the woods on the mountain-side, by what seemed at that time a very old and well-made logging-road. It headed straight up for the ridge, missing the peak of the mountain by only two or three hundred feet, and dropping down on the other side into a beautiful and then heavily timbered erosion "cove" (as it would be called in the Cumberlands), a kind of amphitheater cut into the mountain, with a green meadow at the bottom, and out through the open end a view of far blue hills. This was not a logging-road; it was the ancient road for man and beast from Charlemont to Rowe. Up it came mahogany furniture, tea, molasses, silks, and Bibles; down it went wool and syrup and grain. Why make a six-mile detour to follow the grade of Pelham Brook, when the straight line lay right here, with nothing but Mount Adams in the way? The ancient road-bed was carpeted deep with moss and purpled with magnificent fringed gentians. It finally descended to farms and became

once more a living highway. I well remember, however, that in the yard of the first farm we came to stood a large cage, of wood with an iron-barred door, and inside snapped and spit an extremely peevish wildcat with huge, restless paws.

The town of Sheffield, where I now live, is in the southwestern corner of Massachusetts, on the plain of the Housatonic River. It is bounded on the west by the long rampart of Mount Everett, or "the Dome," as we call it, which rises in a sheer leap for a thousand feet directly from the level, and then slopes back more gradually till the dominating summit ascends to a total height of 2,600 feet, the second highest mountain in the state. Sheffield was settled in the first half of the eighteenth century, among the earliest inhabitants being a certain Dutch family named Spoor (since changed to Spurr), who had a large grant of land on the western side of the township, lying on, and at the base of, the mountain. They came from the Hudson Valley, presumably over the mountain. My farm is a part of their grant, and just beyond my north boundary, entering first the grounds of the Berkshire School, is an ancient road, leading west from the state highway. It makes directly for the mountain wall, which is here almost precipitous in places, and it can still be followed to the summit of the ridge, an air-line distance of considerably less than a mile, but a rise of almost a thousand feet. You would naturally suppose that it would have to resort to frequent switchbacks in order to make the ascent, more than half of which is contained in the last few hundred yards, yet the switchbacks are few. It makes a long

swing to the north, and then a long swing to the south, getting in behind a pine-clad promontory we call the Fiddler's Elbow, and suddenly emerging triumphant from the pines into the hardwoods of the level shoulder-top. From this point it goes straight west, by a more gradual ascent, passing just north of the summit cone, and beside Guilder Pond. This little pond, the highest in the state, is over two thousand feet above the sea. It is perhaps a third of a mile long, its shallow water over a leafy bottom a rich, dark-brown color, its banks indented with rocky coves and toothed with jutting ledges, each sentineled by hemlocks which show the first signs of storm-dwarfing in their twisted growth. (It is a curious fact that on Mount Everett timber-line is practically reached at 2,500 feet. Graylock, fifty miles to the north, does not reach it at 3,500, and it is at something like 4,000 feet in the White Mountains.) The rocky shore-line, too, is pink and picturesque with laurel in early July, and the calm brown mirror of the pond holds the reflection of the summit cone. It is a true mountain pond, and, fortunately, is now a part of the Mount Everett State Reservation. From its shores the old road, regraded by the state at this point, drops down three hundred feet to the township of Mount Washington, a hamlet now boasting fourteen voters (some may have died since this was written), and situated on a high plateau which again plunges down, on the western side, past the wild and beautiful Bash Bish Falls, to Copake Iron Works in New York State. At present, to reach Mount Washington, except on foot, I must either go nine miles south or five miles

north, to get around the ridge of Mount Everett and find a road up. Even these roads will be steep and long, and half the year impassable for motors. But in the old days there was no such roundabout journeyings, no, sir. You got to Mount Washington by heading straight for Mount Washington, and a mere thousand-foot wall did not deter you. Nor has this old road been so long abandoned, as time runs. Our village doctor can remember driving down it once in a buggy a mere forty years ago, and on the less steep portion, above the shoulder, the crown and side ditches are still detectable here and there, while the trees have not always closed across it nor the shrubs badly grown in.

Five miles south, almost exactly on the Connecticut state line, another road leads up the cliff into Sage's Ravine and then to Plantain Pond and Mount Washington. It is still on the maps, too, and I have been frequently asked if it can be traveled in a motor, but not, unfortunately, as yet by anybody whom I particularly dislike. As no author dislikes his readers, I hasten to assure you that it cannot. It has been used of late years exclusively by a periodic brook, which is almost as destructive to a road surface as the town scraper in the hands of our selectmen. Not far up this road are the cellar hole, the clearings, the dilapidated orchard, of an old-time farm, and the dooryard is still riotous with spiræa and day-lilies, which have successfully stood off the goldenrod, the blackberries, the hardhack, and the seedling maples.

On the opposite side of the Housatonic Valley, from the Connecticut line northward, is a wall of

hills leading to a high, broken plateau which extends eastward for many miles, till it begins to break down into the valley of the Connecticut River. Through this region, not through the city of Pittsfield, the stage-coach line from Boston to Albany used to pass, *via* Hartford and the Farmington River gorge. It is a pathetic region of high pastures going back to scrub wilderness, of once prosperous villages with beautiful Colonial houses, some of them belonging to the riper third period, slowly being abandoned to decay (or Polish Jews), of eloquent cellar holes, gray, ruined barns, the "No trespassing" signs of game preserves owned by non-residents, of course, and of forgotten roads that once led past prosperous farms, from town to town, and now lead past nothing but encroaching forest and are only to be discovered by the initiated.

I well remember one such road, if only for the human associations it disclosed, though the day was crisp and fair when we tramped it, the woods were putting on their autumn glory, and two does, with a fawn behind them, looked at us over a tumbled-down wall. This road, we learned, was young in forgetfulness, having been abandoned but fifteen years, though for a generation before that it could have seen but little travel. The rows of sugar-maples, planted a century ago, the open fields, the still visible stone walls, proclaimed the proximity of a farm, and over a rocky crest, which commanded a wide prospect, we came to the dwelling. It still stood four square to the winds, with both main chimneys intact and telling us it belonged to a later period than the type of house built around a central

chimney. The front door and windows were boarded up, but the rear door was entirely gone, and we entered the kitchen, where we had evidently been preceded in past years by wandering cattle. Here was a great fireplace, with paneling over it, and large panels on either side. The two front rooms boasted hand-worked window-trim, and each had its excellent mantel, with considerable cabinet-work upon it, and a curiously flat-molded chair-rail all around, in excellent preservation. Endeavoring to pry a piece of this rail loose, we discovered that it was not applied over the lathing, but was molded on the face of studding which was built into the frame and went clean through to the outer sheathing, which in turn was nailed to it. There is construction for you! It must have added many days or even weeks of labor. The floors of this house were composed of maple planks from twelve to twenty-four inches wide. And everywhere was the scum and litter left behind by a gang of lumberjacks who had occupied it a few years before while the near-by pine woods were being slaughtered.

We left it presently, and followed the old road down a slope into a swampy reach where huge alders met over our heads and the road-bed had long ago been absorbed by the muck. Emerging on the farther side and climbing a hill where the chestnut burs littered the grassy way, we once more came upon the roadside maples in golden procession, with the remnants of a clearing over the tumbled-down stone wall, and knew that another house was once, at least, near by. In a moment we reached what was left of it—the great foundation and first-story

fireplaces (two smaller ones on the sides and a huge one behind) of the stone chimney rising out of a rotting mass of bricks, plaster, and woodwork, with nothing else left standing except a portion of one side wall, to the second-story beams, with two window openings still intact. Yes, there was something else! Half against this wall, in what was once a corner of the room, turned gray and furry by the weather, rose the frame of a corner cupboard, the base split away by the collapse of the floor and standing by a seeming miracle, but the fluted pilasters on either side, and the connecting cap and cornice, apparently intact. The lower portion of the cupboard had once been inclosed by a door; the upper part had evidently always been open, with four gracefully curved shelves. There it stood, above the mournful ruins, like a gray ghost of the departed domestic life. It seemed almost as if the wraiths of a luster pitcher and a blue-china tea-set would appear upon its shelves.

We made our way to it, over the debris pile in the cellar hole, and with all the gentleness possible disengaged it from the side wall and the single rotted joist which upheld it at the back. But, in spite of our tenderness, it fell quite to pieces. The carved keystone cap and cornice moldings, rotted by water from above, separated into their component parts or even disintegrated into a brown powder, leaving scarcely enough for a reconstruction model. The shelves were rotted to a kind of damp punk. Only the fluted side pieces, or pilasters, could ever be used again (with reconstructed capitals). And they are going to be.

The rest of the tramp down that forgotten road was under the shouldered burden of them, and when the alders met overhead there was less rejoicing than before.

So we emerged, at length, into a road which we knew was not abandoned, chiefly because we detected the track of a motor tire, and in time swung the circle home, or to our own waiting motor, rather, because in these days you go on a tramp by riding as far as you can, and walking only when you are sure no cars will follow you.

The total length of this particular abandoned road was, I suppose, about six miles. It ran north and south. By employing here and there a few back-country highways to bridge the gaps, I think it would be possible, however, to walk from Connecticut to Vermont, across western Massachusetts, or from the Housatonic Valley to the brook-heads of the Connecticut Valley, on practically abandoned and in places virtually forgotten roads. I have never done it; one no longer has time for such amiable or wistful wanderings in these latter days. But I am sure it could be done, with sufficient zigzagging, consultation of ancient gazetteers, and consultation with ancient gossips. The ancient gazetteers alone are interesting; the ancient gossips more so. Some day I shall try it. It is my Carcassonne. And, who knows, I may find another corner cupboard? They once lived well on our forgotten roads, with fires that roared on marble hearthstones, to send back reflections from blue-china bowls and glints from the white paint on wide pine panels, worked by hand. Now,

even more than their roads, they, the people, are forgotten—a vanished race. I come down from our hills sometimes as if I were descending from a dream of dead days. In the cellar hole of the Sandisfield church, I think, lies buried the grace and the strength and the bitter iron of an old theology, and in the sagging ruins of the splendid Colonial abode beyond this cellar hole move the ghosts of men and women who dared cheerfully to conquer a wilderness, a wilderness that is now driving the last of their descendants down to the plain once more. The old order changeth, indeed; but it is by no means certain that it is the good customs which corrupt the world.

FROM A BERKSHIRE CABIN

AN ESSAY IN WAR-TIME

I AM in possession of a log cabin on a steep Berkshire mountain-side, in the midst of timber which stretches west from the base of the limestone cliffs below, up past my door, across a small plateau, and then on up the precipitous 1,500-foot shoulder above me, over that to the summit dome four miles beyond, and down the other slope. North and south it sweeps for fifteen miles along the range. It is perhaps one of the most extensive unbroken forest belts in the state, and certainly one of the wildest. Deer, foxes, 'coons, rattlesnakes, wildcat, great horned owls, hermit-thrushes, even now and then a moose, are my neighbors; and the wild, unearthly scream of a fox at night, or the deep, foghorn hoot of a distant owl, answered from some ravine a half-mile away, are sounds that mingle strangely with the snapping purr of a motor rushing by on the state road beneath, which marks the eastern boundary of the wilderness tract.

But nothing could be more peaceful, more quietly lonely and lovely, than the spot where my cabin stands, on this bright Sabbath morning in August. The heat has passed with a shower yesterday. A fresh world lifts crisply up toward a sky of infinite

blue. I am aware with a pang of almost intolerable sorrow of the peacefulness about me. How strange, how bitter the very word sounds! Even here, where I have come to forget for a day, I cannot forget. Dear friends, youngsters I have watched grow up, relatives, a myriad unknown brothers of every creed and color, are to-day plunged in bloody battle killing and being killed, and man has made of peace a mockery. I will not take the easy way and say a man has done so, for no one man could do it, though he were twenty times an emperor. It will ill avail for a too-long-complacent multitude to rise up now and put all the blame upon a few. Some of the sins are of our own omission. But I let that pass. What I try to do just now is to realize with a care never before exercised in what was essentially a care-free enjoyment what it is exactly in my surroundings that gives me so much pleasure, and from that to realize, if possible, what strange duality in our natures must be explained in order to understand even a little the terrible facts of armed conflict. I do not expect to get far on the road of explanation. But at least I shall learn a little, it may be, about myself.

Something that interests me greatly as I observe the process from my cabin is the succession of forest trees. I remember reading Thoreau on the subject in my boyhood, and thinking even then that perhaps he overworked the squirrels. How transparently obvious the process is in certain spots, like this where my cabin nestles. I can sit on the corner of my little veranda and have it all under my eye. It is based, practically, on two facts—that

young evergreens are tolerant of considerable shade and can reach a sturdy size under a hardwood stand, and that hardwood seeds will sprout under the dense cover of evergreens, where the conifers' own seeds fail to germinate. Though the hardwood seedlings die speedily, yet there is always a little new cover of them waiting a chance, and when the evergreen forest is cut down, there they are, so well started ahead of the evergreen seeds that they easily take possession of the new stand. Even if they had not already sprouted, they would outstrip evergreens from an even start.

Directly in front of me here, on the crest of the cliff, is a mixed stand of hardwoods with sunny open glades, gardens of ferns and smooth, false fox-gloves, of wild grape and red osier dogwood and the delicate little white blooms of the hog peanut (they are pure white on my cliffs, not pink or purple). Everywhere through this open stand, mixing freely with the maple, oak, and chestnut saplings, are young pines and hemlocks, of every size from tiny year-old seedlings to trees six and eight feet tall. When these latter are pines they are sometimes dying in the shadow, but in the sunny glades they have pushed up two feet of new leader this season. They and the hemlocks are ready to dispute the ground the moment the hard timber is cut off.

But just back of my cabin, on a rocky plateau, is a dense stand of pure hemlock, a young stand, I should say not over thirty or forty years of age. The little conifers march right up to the edge of this and there they stop abruptly. Sitting in my chair, I can look in under the hemlocks, up the mysterious

brownish-red vistas, where the rocks gleam white in the dappled spots of sunlight, and I cannot detect a single seedling. I get up to investigate more carefully. There is plenty of vegetation peeping up through the brown needles—Mitchella vines, the wonderful blue berries of a *Clintonia borealis*, seedling canoe birches, maples, ash, chestnut, even an oak or two. But not a seedling evergreen can I find. The cone seeds need the warmth of the sun to sprout. Should this hemlock stand be cut down to-morrow, a hardwood grove would succeed it. A little higher up the mountain is a far more aged and impressive stand of hemlocks, with moss on the rocks beneath the cathedral naves and the sense of a lofty roof upborne on huge brown columns. But even here I find on the floor the twin seed-leaves of many maples and birches, and as I look out toward the edge of the stand, where the sunlight seems to form a golden wall, I see a little host of green things marching in, trees a foot tall or more adventuring under the solemn shadow, at first in solid formation, but soon scattering till only the hardiest pioneers reach the belt where the sunlight never falls.

How like little, shining green knights these pioneers of the next forest generation look as they push in out of the golden sunshine, exploring the shadows!

After all, it isn't so much how or why the new forest comes that intrigues me, as the mere fact of its coming at all. This rich black mold I turn up with the toe of my boot is the deposit of uncounted forest generations dead and gone; and, all the

stronger for their natural dissolution, the shining green seedlings of the forest which is to be scout at the feet of the aged hemlocks, ready to take their places. The wind whispers solemnly over my head, a wood-pewee calls sweetly, a warbler tinkles past, swift and silent, giving me no chance to identify him. Peace and beauty, fragrance and wonder, are at the heart of the scene.

On the way back to my cabin I see the stalk of a *Lilium philadelphicum* holding up its green seed-pod, and with a stick I dig up the bulb, to transplant into my wild-flower garden at my dwelling below. I carefully unwind, too, the slender thread of a hog-peanut vine from the seedling tree which it has used for a trellis, and bring its two-foot length, with its pretty, white, vetchlike blooms, to hang over my railing. I note a patch of purple cliff-brake, not on a damp, shaded rock, but amid grass, in full sunlight, and put up a stick to mark the spot, that I may come in the spring and get some for certain dry rocks in my garden. I see with delight, too, the leaves of the hepaticas on the forest floor, a curious reminder in August of the vanished April, or is it a reminder of the April to come? To me there is a rare and delicate pleasure in detecting the foliage of the dainty spring wild flowers, amid the ranker growth of midsummer; it is a subtle overtone of enjoyment, or an under-song of memory. . . .

I am back on my cabin veranda now, in my battered old rocking-chair, with a board across the arms for a desk. Looking west, through a velvety hole along the edge of the hemlocks, I can see a bit of the leaping mountain shoulder, lifting its naked gray

cliffs and its great hemlocks up to the blue sky, where a cloud dome rides. Looking east through the tracery of tree-tops rising from the base of the cliff below me, I can see out over the valley, with its green fields, its road ribbons, its distant white spire, to the line of dreaming hills that billows along the far horizon. A white butterfly flits silently against the velvet, feathery-shadowed bank of hemlocks. In the cleft of a rock a single fern frond, stirred by an invisible wind, waves excitedly, as if it were beckoning to somebody. A long way off, far up the steep mountain, a hermit-thrush suddenly sings once and then is silent—dreaming, perhaps, of the vanished June. In the valley a cowbell tinkles, silvery and sweet. I can hear a little girl calling a dog. The hemlocks are whispering together; they talk softly of their sister, the sea.

Peace and loveliness enfold me, and my soul is glad; it comes forth to meet this loveliness and in the meeting to find happiness. You, who chance to read, will know exactly what I mean, though my words have been clumsy. Your soul, too, goes out to such glad meetings. If you and I, then, are of such stuff, capable of such delicate delights, if man is so far attuned to loveliness, what means this red carnage of the world, this bloodiest and most shocking of all human paradoxes? I am thinking now of the men of the offending nation. Just beyond my cabin is a hickory-tree. I can see the nuts forming. As I look at it, a tune creeps into my head, and, closing my eyes while the wind in the hemlocks seems to play the rippling accompaniment, I hear the incomparable loveliness of "Die Nussbaum," a

loveliness that is close to tears, like all things perfect. It will not do to say there is no paradox here in this race, nor that this race alone has accepted the arbitrament of war. It is not true. Looking beyond the present struggle, as I can look beyond the present forest about me, in the ancient stumps and mold, or the new seedlings pushing up, I see beauty and the love of beauty everywhere, and foul cruelty beside it, of different kinds and different degrees, but cruelty none the less. Just now a hermit-thrush winged without a sound to a dead limb not ten feet away from me. I turned my head, and the movement caught his eye. With a startled flutter, he flew swiftly and silently away again, he, the loveliest of earthly singers, who could not abide my presence! You may smile if you like, but I felt bitterly ashamed.

I have just been reading of the rice riots in Japan, for example, reading back in my library while sitting beneath a print by Hiroshige. I read that these riots are caused by the fact that a few men in Japan, "imitating western capitalism at its most ruthless," have made millions in the past three years, while the wages of the laborers have been kept at the old level, in spite of rising prices. That is Japan, land of exquisite gardens, of color prints never equaled elsewhere, of sensitiveness to flower and landscape charm, to the most delicate subtleties of line and color. Yet has Japan apparently countenanced the ugliest effects of industrial despotism. The explanation that such is their form of government and tradition cannot satisfy me. Forms of government and traditions are what the

people make them, after all. Why have the Japanese not carried their sense of beauty into the machinery of their civic life? A happy populace is more important in the end than a Hiroshige print. What does it avail that Germany could give the world "Die Nussbaum" and "Der Müller und der Bach" when she also set the match to the present conflagration? We must, we are told, "face facts." Well, one fact certainly is that man loves beauty, knowledge, those spiritual adventures in which the imagination plays a part and the world is helped, not hurt. This is as much a fact as the present conflict and the present inescapable need for bearing arms against the universal foe. What puzzles me, as I sit in my cabin, is how to reconcile these irreconcilable facts. That there is at present a universal foe—and a foe who produced Schumann and Schubert, that the greatest of all wars is possible in the latest of centuries, is due, of course, to the fact that mankind as a whole has never really made an honest, sincere, enthusiastic effort to prevent wars. That he has not done so is no less certainly due to the fact that he has either secretly approved of them or else that he has seen no way to avoid them without a measure of personal and national self-sacrifice. Either explanation is not flattering to the creature who can imprison perfection in a song or fix forever upon a square of paper the loveliness of a brooding mountain-top, or merely sit in the woods and thrill to the call of a hermit-thrush. It argues a strange, perverse duality in his nature. . . .

I have just left my veranda and picked a smooth false foxglove which I hold in my hand, admiring

its color—is it sulphur-yellow in the shadow? It causes me to think of an acquaintance of mine, a man of great wealth and the power which comes with wealth. He has two “hobbies,” as the world calls them—painting and gardening. His paintings are of no consequence save to him, but they represent his effort to put on canvas the beauty he feels in the natural world. His garden, too, answers a creative impulse of his soul to make something beautiful. I have seen him stroke softly the petals of a rare peony as if he were caressing the head of a child. Yet I know from many conversations that he believes in his “divine right” to control the industrial destinies of the men in his mills, simply because he owns the machinery, no less firmly and tenaciously than the Kaiser believes in his right of kingship. He will not treat with a union, his face grows hard and arrogant at any mention of industrial democracy, and the squalor and ugliness of the habitations and the lives of his workers are in strange contrast to his own beds of peonies. He is one of those men—too numerous, alas!—who are fighting for democracy abroad without any conception of a changed ideal of democracy at home. My friends the socialists would call this man a hard taskmaster, and admit no good in him. He would be marked among the first victims if a revolution were to come here. And, indeed, I have to admit that they would have considerable justification. Yet I know that his soul hungers for beauty, that it goes out to spiritual meetings with things lovely and of good report. I who have seen him admire a peony can hardly realize that he has cursed a committee of

workers who asked for enough of the profits of their toil to buy meat once a week.

I sit here on my cabin veranda, while the wind whispers in the hemlocks, and try to think what is the duality in my own nature, what paradoxes my life offers between a love of beauty and the responsibility for ugliness, between spiritual kindness and cruelty. To be sure, I have never had the opportunity to control the destinies of any of my fellow-men, and it is doubtless impossible to say how I should act in such a situation. But I can honestly say that I have no desire to control them. Neither have I any desire for wealth beyond a point that insures comfort, a point that might be reached by every family in America under a different economic system. I certainly feel no divine right to rule anybody, and just as certainly I feel that nobody has any divine right to rule me. My happiness consists in doing my own work as well as I can, in the companionship of kindly people and beautiful objects, and, I have always placidly supposed, in the sense of social well-being around me. My greatest unhappiness I thought to be caused by injustice, cruelty, and social ugliness. On the whole, this summary would seem to show that I am a pretty fine fellow—and yet something is wrong with me. There's another fellow somewhere. I had a peep at him only yesterday, when I read of an Allied bombing raid over a German city. Of course, I should have been horrified, or at the very least grieved that the Allies had to sink to the level of German "atrocities." But I wasn't. Honesty compels me to admit that I was delighted. I hoped

the bombs wrecked houses, killed the inhabitants right and left, and generally messed things up. This is sheer savagery, induced by the spirit of retaliation and revenge. It isn't my normal self, it is not the normal self of any of us. It is the self released by war. But it never would have been released by war if we who have better selves to control it had made wars impossible. I am at least one-billionth part responsible for this war, and while one-billionth is not a large fraction, the awful thing to be divided is so vast that my guilt is considerable. Wherein does it consist? How have I failed that ideal of beauty, of harmony, of peace and happiness which should be, and I often believe is, my guide?

And it seems to me, as I turn the matter over here in the stillness of the forest, that I have failed exactly as hundreds of thousands of my fellow-countrymen, and brothers overseas have failed—through selfishness; personal selfishness first, national selfishness second, which is but an expanded form of the personal variety. My woods, my garden, my house, my books, my pictures, my comfort, and the other fellow's only as it doesn't interfere with mine—that has been the ugliness in my nature. I have not been ruthless, but only, no doubt, for lack of opportunity. My sin is that I have not worked for others, only for myself. Nationally, it is our commerce, our industries, our prosperity, and the other fellow's only as it doesn't interfere. We have not thought and felt internationally simply because we have never yet really thought and felt inter-socially. For almost two thousand years we have mumbled the phrases of such thought, but how

feeble the results in real thinking! One city slum confutes us. The question is, will one world war awake us?

A paradox confronts and cheers me. There was probably never a time in the world's history when more men were ready to make the ultimate sacrifice for an unselfish ideal, with no hint of hysteria, but only reasoned conviction in their attitude, than in America to-day. Taking no credit away from France and England, yet it is a fact that Frenchmen and Englishmen were and are fighting for the physical integrity of their homes. Perhaps we are, too, but so long as the mass of us do not have an emotional realization of the fact it is, therefore, practically pure idealism behind us. We have struck the pitch, of course, in a moment of national stress, when "crowd psychology" plays a large part; there is no sense of denying that. Can we hold the pitch when the tension is relaxed? Can we continue to think in terms of the not-ourselves, can we continue to realize that no individual happiness, no individual attainment of the beautiful, no national prosperity, even, is worth much in the sight of the All Beautiful unless it is part of a larger world happiness and beauty? If we can send an army of three million men, animated by an unselfish ideal, to fight abroad, cannot we mobilize an even vaster army of men and women with an unselfish ideal to fight at home, to put the community above the individual, the world above the nation? The forest seems to whisper hope. It seems to say that this, my so beautiful country, has above all others, perhaps, the mission in the immediate after-years

to knit the nations in a league of peace, to substitute another rule for the iron rule of selfishness, which is, after all, the greatest foe of beauty, the ugliest thing in the world.

But it is not going to be easy. Human selfishness, alas! in the form of greed has not always been scotched, even under the stress of war. Its tremendous grip on the world's affairs in times past, however, as we can now see only too plainly, has been in no small measure due to the lazy selfishness of myriads of good people, who would not sacrifice their own comfort, their own delightful leisure in their ivory towers of beauty, or whatever equivalent they possessed for such an architectural retreat, to fight for control of the civic machinery, to make what they knew in their hearts to be the right prevail. Those times must pass. We must descend from our mountain cabins, from our towers of ivory; we must come out of our gardens and up from our slums, forgetting our beautiful enjoyments, or our precarious jobs which carry no attendant enjoyments, and remembering only the ideal of beauty in our hearts, the ideal of beauty which means, too, the ideal of justice and mercy and peace and happiness for each and all, demand of what rulers we shall find that they give over to us the machinery which controls our destinies, and the destinies of all our fellows. The world to-day is fighting for democracy. I see my crime to have been that I considered democracy a condition wherein I was let alone, not wherein I was an active participant three hundred and sixty-five days in the year, fighting to write my best personal ideals into the

whole. That, I believe, has been the crime of the entire world, and in this sense it was not the Kaiser who made the war, but Goethe and Schumann and Beethoven. It was not "secret diplomacy," trade jealousy, and all the rest, that kept the nations apart, straining at one another's throats; it was the selfish complaisance of all the people who had the love of right and beauty in their hearts—and locked it there for their private enjoyment. The fight for democracy is only just beginning, for only now are we beginning to comprehend what democracy means, to glimpse the depths of its sacrifices, the glory of its creative spirit, the beauty of opportunity that it may be made to hold for common men. Had I the eloquence, I would write a new manifesto, and its slogan would not be, "Workers of the world, unite!" but, "Lovers of beauty in the world, unite! and capture the machinery by which we have been ruled in ugliness and cruelty." There would be no need of a union of the workers, then, for we should all be workers for the common weal. . . .

The sun stands high over the still tree-tops now. The wind has almost died away in a noon hush. Only my single fern frond in the rock cleft beckons energetically once more, as if it were a sentient thing. The forest seems drowsing in its loveliness, and I am loath to leave it, to descend to the valley road, to dinner—to the Sunday papers. It is hard to come down from a mountain cabin, from an ivory tower, to give up a solitary possession or resign a comfortable privilege! If I owned a factory would I consent without a bitter struggle to industrial democracy? I ask myself as I pass the

foxglove plant and touch its trumpet with my fingers. No—probably not. Undoubtedly not, I decide as I reach the clearing. By the time I set foot on the road, and almost immediately am forced to dodge a powerful touring-car which snapped and coughed like the rushing symbol of wealth and power, nothing seems to me so simple as it did. I want once more the consoling whisper of my breeze-touched hemlocks. Of course, we shall, we *must*, put aside our selfishness and take our soul's best into the world's affairs. But the battle is still long ahead, the vision uncertain, and the best we cling to now is the purity and elevation of our motives in the immediate war at hand. That, after all, is a great step forward in the sorry story of men's strife with their brothers.

August, 1918.



LITTLE FOLKS THAT GNAW

YESTERDAY (Washington's Birthday) there was a light snowfall of three inches, covering the old snow which was packed to a crust, and the bare patches exposed by the recent February thaw. To-day I went out to the swamp woods to see how my rabbit was faring, knowing that I could track him easily in this telltale new powder. I have kept a desultory eye on him for two months, since I discovered his winter lair under an old pine stump on the edge of the swamp, and his playground close by, beneath a tent of swamp shrubbery bent over by the weight of snow to form a kind of arched wicker roof. Cottontail rabbits have been scarce this winter, far less numerous than for several years, and this chap, living within two hundred feet of the road, interested me more than he ordinarily would have done.

When I reached his playground to-day the new snow was so covered with his tracks that it looked like an airplane photograph of a white No Man's

Land, pock-marked with shell-holes. Not only under the bushes, but in an open space outside, ten feet across, he had hopped or danced round and about. But his former lair was deserted—nature had evicted him. It had been the neatest little winter quarters you ever saw, a hole scarcely six inches in diameter leading beneath a root and in under the heart of the old stump, the entrance half hidden by the drooping, snow-laden branches of a young hemlock that had sprouted in the rotten wood. But the recent thaw had raised the water-level of the swamp, and now the hole was filled solid with ice. Curious to see what he had done about it, I picked up the single track leading away from the playground (his dance last night had quite evidently been a solo), and followed it. I could also discover, thought I, what he had eaten since last evening, when the snow stopped falling.

This track led me directly toward a slight rise of forest ground, well above swamp-level. Mr. Rabbit had nosed about a bit, like a dog, especially running in under every small hemlock which roofed the snow with its low branches, and there squatting down. But nowhere could I find a trace that he had so much as nibbled a shoot. Even back in his playground not a twig of the shrubbery was nibbled. After a short distance the tracks led to another stump, less picturesque than the first, but better drained, and here was a similar hole. Tracks led both in and out, and grayish hairs were adhering to the root under which he had to squeeze to enter. I poked into the hole, but could not reach the end, as it speedily took a sharp curve. So I se-

lected one of the outgoing tracks at random and followed that.

It led off the high ground to the swamp ice again, and suddenly there was another track beside it, or, rather, on it—the track of a fox. As neither the rabbit's step nor the fox's had lengthened into a



The cottontail rabbit beneath a tent of swamp shrubbery

leap, it was plain that the fox had come later. I hurried on, intent to see, if I could, whether the fox had caught his prey. After a few hundred yards the rabbit had reached a spot where there were numerous swamp-maple seedlings from a foot to six feet high, and here he had fed, his sharp teeth cutting off the tender shoots as cleanly as a pruning-knife. Not only had he eaten several shoots the preceding night, but many of the larger seedlings showed the scars of feedings a year old, or even more, some trees having had to renew their leader from a lateral branch. Either this rabbit or his parents had long used this spot as a feeding-ground. The cottontail had eaten not more than five shoots for his meal, so far as I could see, each about the thickness of a fat match, and probably from six to fourteen inches long. But he had hopped about a good deal in the process, and made several excursions into the surrounding swamp. Perhaps, as a result of all these tracks, the fox had given up the scent and gone off after an easier trail. At any rate, he had gone off, and my friend had escaped him for one more night.

It is a curious fact about rabbits that they are plentiful sometimes for several seasons, and then, quite suddenly, greatly diminish in number. Some observers declare this due to an epidemic, and one game warden I know maintains that the epidemic occurs at seven-year intervals. But the evidence for any such sweeping statement is scanty and inconclusive. During the bitter winter of 1917-18, for example, the presence of unusual numbers of goshawks in New England was explained by the

scarcity of rabbits and hares in the North. Yet we had few rabbits before the hawks arrived. It seems difficult to believe that an epidemic could, in one season, extend from Long Island Sound to Labrador. On the other hand, a severe winter by no means necessarily implies a dearth of rabbits. During one of the severest winters of the past decade, when the snow lay three feet deep from December 13th till late March, I not only found the well-beaten highroads and side-paths of innumerable cottontails everywhere in our woods, but the snow-shoe rabbits, or varying hares, were also not infrequent. When spring finally came that year the hedgerow bushes and small trees in remote clearings were often ringed five or six feet above the ground, all the bark being eaten off. The constant passage of the rabbits over their trails kept the snow packed, so they were elevated well above the ground, and by standing on their hind legs they could feed high. The effect was odd enough when the snow was gone.

Old hunters tell me that hereabouts in Berkshire, thirty or forty years ago, cottontail rabbits were few in number. A rabbit-hunt meant the chase of the varying hare, so called because his winter coat is snow-white, or often called the snow-shoe rabbit because of the odd, elongated print of his big hind feet. The varying hare is much larger than the cottontail, and, like his smaller cousin, subsists on a strictly vegetable diet, including bark and twigs, so that starvation is practically impossible. Just why he is so rapidly disappearing, and the cottontail, originally a more Southern species, so rapidly more than taking his place, is a mystery. Neither

species can offer any real resistance to their foes—the great horned owls, the foxes, wildcats, hawks, and weasels, not to mention dogs and men. Speed is their only recourse, once they are discovered. In winter the varying hare escapes detection by his white coat, if there is snow on the ground. The cottontail, on the other hand, plays dead in the face of danger almost as successfully. I have known a rabbit in my garden to sit motionless between two frost-browned cauliflower plants till the dogs were within two feet of him, and neither the dogs nor I noticed him till he jumped. The cottontail has one habit to his advantage—he burrows in winter (always by himself, so far as I have observed), while the snow-shoe lives the year 'round under no better roof than a low evergreen limb or tangle of briers. The cottontail, also, takes a little longer and better care of its numerous young. I have seen a mother cottontail, after her nest in the grass was discovered, take all five babies, one by one, in her mouth, and hop with them two hundred yards away into a safe thicket. Observers agree that the varying hare never carries anything in its mouth.

But, for all that, the odds against the larger species do not seem so great as to account for the fact that our Colonial ancestors, by rabbit or hare, meant the big fellow, and most of us to-day, by rabbit, mean the cottontail. Indeed, many readers of this book have probably never seen a varying hare, in his pure-white coat, crouched beneath his snow-laden, fairy roof of evergreen boughs, his ears erect and listening for the danger signal. They have missed, however, one of the prettiest sights in

nature. To-day, in the western Massachusetts hills, we annually kill more wildcats than snow-shoe rabbits. My own belief is that temperament rather



A varying hare under his snow-laden, fairy roof

than habit is the explanation. We are prone to underestimate the part temperament plays in the life of animals, in spite of our long acquaintance with dogs. The cottontail does not mind civilization. Mind it? He likes it! Believe me, for I

know. I have seen all my raspberry shoots cut off at snow-line and my young apple-trees girdled by a rabbit which lived under the veranda of an unoccupied cottage on the place in winter and in the grass behind the garden in summer. After the summer came, however, he never molested the garden. I have seen him hop between two rows of young lettuce to eat clover in the lawn. On or near almost every place on that village street a cottontail lived, despite the dogs. But the varying hare is a creature of the deep woods, the wild pastures. With us, he is invariably shot, if at all, well up the mountains and far from any house or frequented clearing. Something in his make-up prevented him from taking kindly to the advent of ax and plow, and he appears to me to have shrunk just as our area of primeval forest has shrunk. He has paid the penalty for not being temperamentally adaptable.

A few years ago some unspeakable person in New York State imported several European hares, which in size and speed resemble the jack-rabbit of our Western states, and which are capable of becoming quite as much of a pest—or so we thought during the cold, snowy winter of 1917–18. By that time, these hares, which all our farmers called jack-rabbits, had come over the state line in great numbers, and were spreading out to north and south along the eastern base of the Taconic range. Some had penetrated into Connecticut, but only a stray rabbit or two crossed to the east side of the Housatonic River. During that winter I wrote that the greyhound would soon be our most popular dog, after watching one of them leave an ordinary dog behind

with ridiculous ease, and after seeing, of a morning, the network of their tracks on the snow and the freshly exposed wood of young pear- or apple-trees where they had stood on their long hind legs and eaten the bark. More than one person, that winter, on a moonlight night, came upon little groups of these hares dancing on their hind legs, and every walk in the woods was almost sure to result in starting one up from under a bush, where he slept till late afternoon. Even when summer came, I often saw their long brown ears sticking up in a young corn-field, and more than once mistook these ears for those of a fawn.

It was my ambition during the following winter to build some kind of a blind, by an open space baited with apple twigs, where I could watch till I had seen the hares dance, for during the first winter of the invasion I didn't have the luck to witness this interesting terpsichorean spectacle, and those who did have the luck all testified it was both comical and strange. But my blind was never built. The hares, during the following winter (an exceptionally mild one, too), practically disappeared from our neighborhood. None of us has been able absolutely to verify the cause, but this much is certain: early in the winter a number of great horned owls appeared — or, rather, became audible — on the wooded eastern slopes of Mount Everett, at the base of which my farm lies, and over which the rabbits roamed, making their nightly sallies down to the orchards. On calm evenings, no sooner had the sun set than we would sometimes hear half a dozen owls, along the shadowed slopes, hooting mourn-

fully. They remained in numbers till February, and one or two even into March. But by March sight or track of a European hare, either in the woods or the fields and orchards, was as rare as, the winter before, it had been common. Apparently the owls cleaned them out, which, if true, is another and excellent illustration of the balance which nature maintains if left with a free hand. Out West, of course, the jack-rabbits have become the pest they have to no small extent because of the extermination of the coyotes.

But it looks now as if I should never see the moon-light dance of the European hare!

It is sometimes hard to think of the rabbit as a rodent, unless you find one of your young apple-trees ringed by him above snow-line, and ringed by the field-mice at ground-level! He is, in fact, a sort of link between the rodents and a different genus, for behind his two large gnawing teeth he still has two smaller ones, useless now since he does not eat flesh, and, unlike the rodents, his fore legs will not turn inward, so he cannot use the paws for hands, as a mouse or squirrel does. He employs them only abortively when reaching up to nibble, or when he has to stand on a carrot to hold it firm. Yet he is a rodent, belonging to the great family which includes squirrels, rats, mice, porcupines, woodchucks, gophers, chipmunks, spermophiles, shrews. It is a hardy family, on the whole, so adaptable and prolific that the rats and mice alone are said to comprise twenty-five per cent. of all our mammals. It is a family, too, which hardly deserves its ill repute, though its gnawing habits are

often trying. What has really made the word rodent repellent is the representative place taken in our thoughts by the Norway rat and the common house mouse (both introduced into America, no doubt unintentionally, by the early settlers). A woman who squeals at a mouse and has a genuine horror of a rat will feed squirrels by the hour in the park. Yet all three are rodents, and if red squirrels once get into a house by gnawing a hole under the roof, they can be far more of a pest than mice or rats, and make at least ten times as much noise.



The familiar, aggressive, fearless, quarrelsome red squirrel

The squirrels are an interesting and numerous family, from the familiar, aggressive, fearless, quar-

relsome red of our Eastern woods and the big gray who now largely flourish only in protected regions, taking kindly to parks and college campuses, to the chipmunks and other ground-squirrels, with their extensive underground burrows and hibernating habits. Then, too, there are the flying-squirrels which are so exclusively nocturnal in habit that dozens of them may live in the familiar woods without the ordinary person being aware of it. Our mountain-side is full of them, yet there is scarcely a boy in town who has ever seen one. The red squirrels can be a great pest. For seven years I lived with a stand of pines overhanging my sleeping-porch, and, just beyond, several fine apple-trees. The red squirrels nested far up in the pines, in two holes, and also in a crotch where they erected a house of twigs and needles. They robbed robins' nests, both eating eggs and killing young birds, amid a tremendous uproar on the part of the parent birds. They invaded the apple-trees before the fruit was quite ripe, nipped off apples, which fell to the ground, and then ran down to pick them up and carry them off, sometimes showing extraordinary strength in lifting an apple which, for a man, would be the equivalent of a barrel of apples, and racing up a pine-tree with it. They rose very early, and began to chatter at daybreak. They got into the house and rolled nuts over the attic floor. One even got on the sleeping-porch while my wife and I were still sleeping, and ate seven large holes in a Navajo blanket. However, he paid for that with his life! The red squirrel is a hard worker, and even his robbery is

a part of his normal and ceaseless activities in securing or storing food.

Much of this food, especially in the woods, is not stored in any of his holes (for the woodland red squirrel almost always has at least two holes, one on the ground under a root or stump, one up a tree—and he may have a twig nest besides). He will collect nuts, pine and hemlock cones, seeds, and the like, in many places, sometimes merely cacheing the collection under a few needles on the ground. One of the most remarkable traits is his unerring instinct, a month, two months, even five months later, for finding these stores through two feet or more of snow. Again and again in the woods I have seen squirrel tracks on the snow, with no sign of digging, and then, suddenly, a hole right down to the ground. Near by will be the signs of his feeding around some stump, where he has sat to shred his cone for the toothsome seeds. I do not think that a red squirrel ranges very far—relatively, that is. He comes to know every foot of ground and, what is even more important, every foot of branch and trunk and twig in his section of woods, and he has an excellent memory. He knows, for instance, just what slender lateral branch will lead him to a safe leap into the next tree, and the quickest aerial route to a hole. He has regular arboreal high-ways and cross-alleys, and it takes a lively hawk to catch him. He is strong, active, intelligent, somewhat unscrupulous, but tireless in industry, and he takes thought for the morrow. That is sufficient to explain his universal survival while his less active and provident gray cousin has diminished in numbers.

His more distant cousin, the ground-squirrel (including the gay little chipmunk), has also maintained itself. Indeed, anybody who has ever camped in one of the timber-line parks in the Rocky Mountains knows that in such spots the ground-squirrel is the most prominent thing in the landscape. In spite of foes, from the hawks, foxes, mink, and weasels of the East to the grizzly bears of the West (who dig out the ground-squirrels frequently), these gregarious and cheerful little fellows manage to thrive. A striped chipmunk running on and under and over a gray New England stone wall, or a larger Columbia River ground-squirrel in the high Rockies of Montana sitting on his hind legs and pressing a startled *peep* out of his stomach with his front paws, is a pretty sight, which delights all sorts of people. The ground-squirrels live in burrows, or tunnels well underground, frequently of great length. A chipmunk burrow will go straight down three feet, then run for half a hundred feet under the surface, with several nest chambers lined with leaves, and one or more back entrances. Here the winter food is stored and the winter spent. The most interesting feature of these tunnels, however, is not their extent, but the fact that you never find any excavated earth at the mouths. A great quantity must be taken out, but it is all carried away by the squirrel presumably in his (or her) cheek pouches, and either scattered on the grass or piled at some distance, under a bush. Yet I have never yet seen a chipmunk carry the earth thus, nor found any one else who has seen him do it. Enos Mills tells me he has only seen them push or drag out the dirt. The ani-

mals do not intend to give away their entrance holes to the eye of an enemy, any more than possible, at



A chipmunk waiting expectantly for breakfast

any rate. This trait has doubtless aided them in their survival struggle.

Still another survival aid has been their communal spirit, which they share with those common aquatic rodents, the muskrats (called mushrats by all Yan-

kee small boys, I never knew why). The approach of danger to a ground-squirrel colony or a community of chipmunks is heralded by the alarmed peeps and squeaks of the first animal to spy it, and the cry is taken up all down the line. I have entered a Rocky Mountain meadow and heard the little, shrill, warning *cheep-cheep* go across the grass and nodding chalice cups like a spreading fire, while whisk, whisk, whisk down into their holes scurried the greenish-gray bodies, to poke black, curious eyes out again a few minutes later. Just so I have seen a man who could imitate a big horned owl hoot at the edge of a pond at night, and heard the thwacks of muskrat tails on the water go receding up the edge like the alarm-beat of policemen's clubs on the curb, and the splash of the rats as they dove to safety.

Yet the woodchuck, that largest and laziest of common rodents, makes no effort to conceal his burrow, and, like the grasshopper, lays up nothing for the winter. No, that isn't true. He lays up fat. Perhaps his laziness, his indolent if watchful hours of sunning on the pasture rocks, his easy feeding on tender grasses, clovers, and, when possible, succulent farm vegetables and crops, shows the shrewdest sense. It enables him to sleep the winter through without eating. Certainly he has survived. It is not true, as some assert, that this sleep is unbroken during the cold winter, for many times, before Candlemas Day, I have found holes with a packed track between the front and back entrance, showing the chuck has been out more than once for air. But I have never found tracks leading

away, or any signs that the animal has looked for food. It proves, however, that his hibernation is not always complete, even if much nearer com-



The woodchuck is the largest and laziest of common rodents

plete than that of the chipmunk, who lays up a food-supply.

On the same day that I followed my friend the

rabbit last winter I came upon the record of a nocturnal tragedy by the roadside. On one side of the road was a wire fence, with wooden posts, and the grass beneath had been cropped close, so that the snow made a clean carpet. For at least two hundred yards a weasel had gone along under the fence, passing one post to the north, the next to the south, the next to the north, with the regularity of a shuttle in a loom. Just why he did this I have no idea, unless he found it aided him in keeping close to the slight protection the fence afforded. After following him some distance I saw a field, or meadow, mouse track, which came across the road. The mouse was headed for the fence where the weasel walked, evidently intending to pass beneath it. His tracks abruptly ended six feet short of the wire. The tracks of the weasel showed why. That savage little hunter had made one spring and landed on the mouse. There was no sign of blood, but it was evident that the weasel had carried off his prey, deserting the wire fence and cutting across a corner of the field to a hedgerow of tangled briars and saplings.

The poor field-mice have many foes—owls, hawks, crows, cats, even foxes. I have seen a barn cat which hunted much in an old orchard bring in half a dozen mice daily from the long grass under the apple-trees. These short-tailed, burrowing mice, which live in fields and meadows, remain abundant, however. They probably do a great deal of damage, in the aggregate, eating corn and grain in the shocks, ringing the tender bark of young fruit-trees under the snow, destroying bulbs in the ground,

and so on. Yet they have their good side, for they must consume a great quantity of weed seeds.



*The short-tailed, burrowing mice eat corn and other grain
in the shock*

They live largely in that small, fairy forest of the long grass and the weeds, and even in winter they

are often out of their burrows beneath the snow to shake down the seeds from upstanding weed stalks. The snow has just melted from one of my pasture slopes, a pasture which was not cropped last season, and the ground there is now a matted tangle of dead grass and weed stalks. Looking at it carefully, I find that everywhere on the ground are the little runways of the mice, about an inch wide and apparently the same height, to judge by those places where the animals had to cut them through matted grass instead of snow. When, a month ago, that pasture looked like a white carpet utterly devoid of life, it was still inhabited. Under the snow the mice were moving about freely, in their long, branching tunnels.

The white-footed mouse, also called wood-mouse and deer-mouse, belongs to the long-tailed division. He has a longer tail, longer legs, longer ears, and, like all the long-tailed native rats and mice, does not burrow. Indeed, in habits he more or less resembles the squirrel, making his nest in a hollow root or log, even in a hole some way up a tree, or an appropriated bird's nest. He is the most attractive of all the large family of rats and mice (rats, by the way, being only larger mice, and in no way a different species). Especially in winter, the deer-mouse is a pretty fellow, for then his fur is soft and long, snow-white underneath, fawn color on top, and he has big, black, timid, friendly eyes, magnificent whiskers, and ears not unlike a Boston terrier before the shears have been applied. He lives largely on nuts, berries, seeds, and what meat scraps he can procure, and he stores food for the

winter. The illustrator of this book can testify to the fact that the deer-mouse stores food, for once his player-piano refused to emit the strains of a Beethoven sonata, and upon investigation he discovered that two deer-mice had come into the house (which had been vacant for a few weeks), made a nest inside the piano, using the bellows for material, and had stored therein, also, a peck of hulled chestnuts. I have also found hulled chestnuts in an old stump, with deer-mice tracks about.

Were it not for the fact that these beautiful little creatures are almost entirely nocturnal and so not often seen by the average person, there would be far less popular prejudice against the whole breed of mice. They leap gracefully with their long hind legs, their fur and color are beautiful, their big, timid eyes irresistibly appealing, their big ears and whiskers comic. If, in our winter walks in the woods, we could see them frisking about in the fairy forests of the weeds, or dancing in an open glade, as their tracks show they dance at night, like the rabbits, the poets would have celebrated them, and their features would be familiar to all Americans. But alas! our poets do not haunt the frozen thickets of the forest when a midnight moon is shining coldly down, and the beautiful little deer-mice lack their laureate.

The muskrat and the beaver, the aquatic rodents, roughly correspond to the cottontail and the snowshoe rabbit, for the smaller, less attractive species has proved temperamentally adaptable to civilization, and builds his winter nests in the river swales within a stone's-throw of our villages, while the

beaver disappears before the march of man. Of course, a beaver colony demands a considerably larger body of water, with a higher water-level, and much more food. The beavers must have their adjoining stand of willow and aspen shoots, or other succulent bark. But the fact remains that these most social of animals, with their highly developed communal activities, their engineering genius, their capacity for self-government and leadership, take unkindly to man and all his ways, and all that is left of them in great sections of America are the open meadows by some forest brook that was once the site of a beaver-pond. On the other hand, I can take you to twenty muskrat-huts in the course of an afternoon's stroll, and by making a hole in the sods and cattail stalks which compose the domelike roof, show you the air-chamber above the winter water-line, and the passage down into the basement water-chamber, which, in turn, leads out under the water and ice to the feeding-grounds and the burrows in the banks. I have often wondered why the muskrats come out of their ponds or streams or swamps in winter and go awandering. They certainly can find little to eat above the snow. Yet I have met them occasionally a considerable distance from water, in full daylight. Perhaps they were seeking some other pond where there would be a fresh supply of flag roots. I well remember meeting one big fellow on our golf-course, walking over two feet of snow. The dogs went for him, but got nipped on the noses, whereupon they withdrew a few feet, barking angrily. My companion stepped up and poked the furry little fellow with his snow-shoe.



The porcupine is armored against all enemies

whereat the rat, with a squeal of rage, made a spring right over the shoe, and set his long, sharp teeth through moccasin and two pairs of woolen socks, into his tormentor's little toe, where he hung fast as a bulldog, while the tormentor became the tormented, and began to hop wildly on one foot, kicking with the other. As soon as I could stop laughing sufficiently I pulled the rat off by the tail, and we let him go, the dogs in full pursuit. He made for the river, found a small hole between the bank and the ice, and vanished. Of course, man is the great foe of the muskrat nowadays, with his traps. The pelts are bringing undreamed-of prices to-day, and if the present scale is kept up the muskrat can hardly survive without protection. Nothing can survive the unrestrained greed of man. A single fur establishment in New York advertised the other day over 300,000 muskrat-skins.

The least attractive, as well as one of the largest of rodents, and the one whose gnawing capacity can be the most destructive, is the porcupine. The porcupine, as everybody knows, is armored well against all enemies. His quills, normally lying backward with the hair, can be erected by muscular action of the skin, and only the craftiest hunters can get to his comparatively unprotected throat. Moreover, those sharp quills come out easily from his skin, but with the utmost difficulty from the skin of any animal they have penetrated, for they are pointed with tiny barbs. I have seen a dog come down one of our mountains with his face and chest stuck full; and he had to be killed to end his misery, for the quills had worked inward. Yet the porcu-

pine is decreasing in our Eastern woods. It has been several years since one was reported in our county, for example. We still have plentiful forests for them to feed in (they laboriously climb trees and eat the bark, twigs, and even foliage), though our supply of long hollow logs to nest in may be fewer. Yet the 'coons and wildcats continue to flourish, and they are much more hunted than the porcupine ever was.

In the wilder parts of the country, however—in the Michigan woods, for example, or the Rocky Mountains—they are still numerous, and woe to the campers who leave an ax-handle or saddle-girth unprotected at night! Once, in Montana, we lost an ax-handle, a halter rope, and the sleeve of a woolen sweater, in a single night. I was waked the next morning by the sound made by the cook in killing the porcupine with what was left of the ax. These beasts will gnaw anything made the least saline by contact with perspiration. A Michigan lumberman told me that an approved method of revenge in his neck of the woods was to sprinkle salt on the roof of your enemy's cabin, if possible the night before a rain! He said he had seen the porcupines eat an entire roof so treated full of holes in one night, to the great discomfort of the occupant of the cabin. Having camped in porcupine-infested timber, I can readily believe it. Probably nobody seriously regrets the diminishing range of these rodents. They appear to serve no useful purpose, as their feeding is almost entirely destructive, even when it is confined to trees and shrubs.

A correspondent in Manchester, Vermont, how-

ever, Mr. Walter R. Hard, writing about the porcupines in that region, where they were once numerous, but are now confined to the main ridge of the Green Mountains, insists that they can be attractive. He caught one at his camp and tied it to the flag-pole, ultimately releasing it with two feet of cord still attached to its hind leg. This cord got tangled in a bush, and the porcupine was brought back and told to go up the pole and kiss the flag; "Which," says Mr. Hard, "he did! He climbed to the top, reached out and got the flag and tried to cover himself with it. While I had my back turned for a few moments he came down and disappeared. As he hung on the pole and watched us, I found his face really quite attractive." Mr. Hard also records that on a winter trip he found the body of a porcupine with the entire belly scraped out, and wild-cat tracks all around it. The old-time hunters also affirm that the cat is its only serious wild enemy here, as the martin is in other regions. . . .

To-day is the 14th of March. We had a snow-storm last night, and there are six inches of new snow on the ground. I have just been out across the broad, white river meadows. There was no hint of spring in the air or in the prospect. The meadows were utterly deserted and clothed with winter. The trees were bare. Not a bird was visible. But suddenly I came on a curious track in the snow—a double track, the right and left foot-prints two inches or more apart, with the snow brushed by the belly between. A woodchuck! He had seen his shadow on Candlemas Day, and so was supposed to stay in for six weeks more. Well,

it was forty days. He was living up pretty well to the hallowed traditions! I followed him. One—two—three times he had started digging, but each time evidently found the ground frozen too hard. From the third attempt the tracks led around a little slope to the south side, and there, on the white snow, was a pile of fresh, yellow earth. Seventy-five feet away was another pile, even larger, and under it a mound, evidently the earth dug out the year before. Between these two holes, the two ends of his tunnel, was a third hole, with no fresh earth, and on the snow a yellowed track where he had passed back and forth with his muddy paws and belly fur. As there were no tracks leading away except on the circuit I had followed, it was plain he had been hibernating in this burrow, had come out to-day and tried the ground to see if he could start a new one, found he couldn't, and returned to his old quarters, which he proceeded to renovate. It was a species of spring house-cleaning.

Spring house-cleaning! I looked across the snowy meadows to the white walls of the mountains and felt the biting March wind blowing from a chill, watery, leaden east, with no hint of a sunset glow in the leaden west. Then I looked down at the pile of fresh earth below the woodchuck's hole, and hoped that the little optimist was a true prophet. At any rate, he had enlivened my walk for me and sent me home in better spirits.

THE WAYS OF THE WOODCHUCK

THE piece was entitled, if I remember rightly, "Webster's First Case," and it was in the Fourth Reader—or maybe the Fifth. Anyway, there was a picture showing the young Daniel making an eloquent gesture in front of his father, while brother Ezekiel stood by with a woodchuck in a trap. "Zeke," it seems, had caught the chuck (which was a highly commendable thing to do according to New England standards), and was about to put it to death when Daniel took pity upon its dumb helplessness and appealed for its life. Father Webster was called in as judge, and he was so moved by the future Senator's pleading that he finally exclaimed, "Zeke, Zeke, you let that woodchuck go!"

I don't know if this story is included in the Readers any more; probably not. But in my boyhood it made a great impression. It was far easier, in fact, to appreciate the eloquence which could persuade a Yankee farmer to spare a woodchuck than to appreciate the eloquence of the Bunker Hill oration as declaimed by Wesley Sanborn! There wasn't a youngster of us but hunted woodchucks, and those who lived on farms did it as a regular part of the chores—the only really enjoyable part. We all were familiar with the habits of this rodent; we knew his powers for destruction; we had been brought up to regard him as an enemy of agricult-

ure and a proper subject for extermination. Not one of us could have persuaded *his* father to spare a chuck. So that story, above all others, prepared our minds for a just appreciation of Webster's genius.

Times have changed now, and Readers with them. The story of Webster's first case has no doubt gone the way of "Kentucky Belle" and the rest of the Civil War ballads. But the woodchuck hasn't changed a bit, neither has he been exterminated. He still burrows in field and pasture and wood, he still suns himself on a stump in the clearing, he still eats the hearts from the farmers' cabbages, and he still comes out of his hole on Candlemas Day to look at his shadow and make an annual "weather story" for the urban newspapers—as "Mr. Woodchuck" in most journals, as "Mr. Ground-hog" in those published in New York, where blueberries are called huckleberries, and doughnuts crullers. "Mr. Ground-hog came out of his hole this morning and saw his shadow, so we are in for six weeks more of winter," says the afternoon paper on February 2d. You have an odd vision of a dirty, black muzzle nosing up in front of the City Hall and taking a squint at the Woolworth Tower. And then you smile—smile to think how this humble rodent of our fields, and this homely superstition about him which grew up in our pioneer country, have power to persist and get talked about on the front pages of our newspapers in our busiest cities, and in brazen defiance of our scientific weather bureau. Surely, "Mr. Ground-hog" has not been forgotten. He is our surest reminder of those early days when America was a land of agricultural pioneers.

Just as the potato-bug was a North American native which didn't originally live on the potato-vine, so the woodchuck was a native mammal which didn't burrow in pastures, orchards, and gardens, and live on vegetables, but in the glades, or even the depths of the forest, where he lived on a less succulent diet. Here the early settlers found him, and named him woodchuck, the *chuck* being, it is said, a Devonshire term for little pig. How long it was before the woodchuck found, in turn, the gardens of the early settlers is not recorded, but judging from his present-day fearlessness even in the face of the most persistent persecution, it could not have been long before he began to tunnel in the clearings and to eat the vegetables of the Pilgrim Fathers, taxing their patience and putting to a severe test their rigid restrictions on denunciatory expletives. And the woodchuck has been with us ever since, and ever since he has been putting the patience of men to the trial.

The woodchuck (*Arctomys monax*)—known also as the ground-hog, and less frequently as the Maryland marmot—is a heavy, thickset, short-legged animal, which grows to a full length of about two feet. In color it is a grizzly yellow, varied with black and rust. It has black feet, the furry hair stopping short at the wrists like the sleeves of a jersey, and a rather short, bushy tail. It ranges from New England to Georgia, and westward to North Dakota, and it has cousins of the marmot family in the colder North and in various parts of the West. Its best-known characteristic, of course, is its burrowing propensity and its long, winter

hibernation. If the author of *Alice in Wonderland* had been an American, the sleepy Dormouse would undoubtedly have been a woodchuck. "It stuffs



Sitting on his haunches in a field of daisies

on vegetables all summer, and sleeps all winter"—that might be a summary of what a great many people know about the woodchuck. But, like most summaries, it would do him a grave injustice. As

a matter of fact, he is well worth studying more closely, and a closer study will show that he isn't half such a fool as he looks sometimes when you see him sitting on his haunches in a field of daisies and clover, or curled up in a lazy ball in the sun.

In the first place, the chuck is a good fighter, considering his waddling build and his *avoirdupois*, and while he usually fights on the defensive, standing off his foe till he can get back to his burrow, he often shows a generalship in retreat that would do credit to Sir John French. When he cannot get back, he stands right up and makes a brave scrap of it, like his much smaller distant cousin, the muskrat. I have seen an adult fox-terrier corner a woodchuck against a steep bank where there was no escape, and fight for a full hour before he killed it. The terrier looked as if he had fallen into a pot of red paint when the battle was over. A larger dog, of course, makes quicker work of it; but even the larger dogs, when once they are wary, respect this apparent ball of waddling fat, with teeth like chisels hidden in its black muzzle, and close in on it by a spring from above, if possible. Wise chuck dogs have been known to hunt in couples—one in the open, keeping the prey's attention fixed, while the second sneaks in from behind and does the actual killing.

Against a large dog, of course, the poor chuck has little show, but often with half a chance to get back to his hole he can stand off a small dog and make good his retreat. His method is simple and is based on the fact that the dog's instinct is to circle, like a boxer sparring for an opening. When the

dog is between him and his hole the chuck bares his teeth with a squeaky snarl and lunges at his antagonist. When the dog is on the off-side, he backs away toward his hole just as far and as fast as he can, but never ceasing to face the dog. In this way the chuck will progress, by alternate rushes and backings, till suddenly the surprised terrier sees his foe disappear into the yellow earth, and any attempt on his part to follow results in a sorely nipped nose. Woodchucks will also go up a tree to escape a dog, if the occasion offers. A small tree, with thick, low branches, is within their capacity to climb, and they will climb it for ten feet if sufficiently hard pressed.

It may be that some of their ability to fight comes from practice in mating-time, as well as from their rodent instincts. The woodchucks mate early in the spring, and battles between males are frequent, if we may judge from the squeaks and angry sounds which come across the fields from the vicinity of their burrows. These battles last until the unsuccessful rival is driven out of the immediate neighborhood. Following such squeals once, we crested a slight ridge in the pasture, and saw one chuck pursuing another down the slope toward the river-bank. The victor stopped, apparently satisfied, when his rival went over the edge, and started to return. Then he suddenly spied us, and also the young collie with us. We were by this time walking toward him, so he flattened out on the ground and played dead. The pup went up to investigate. Being a young, trustful, innocent pup, without knowledge of evil, he put down his muzzle to smell, and lifted it again

instantly with a sharp yip of pain. But, being a collie, he maintained his dignity. He immediately became absorbed in the contemplation of a tree on the river-bank, toward which he moved sedately, as if that had been his objective all the while. He paid no further attention to the woodchuck.

But we did. We drew close, and the chuck rose on his toes, with back slightly arched like a cat, and with hair and tail bristling, too. He bared his teeth and made an angry, snarling sound—and then suddenly bolted forward in a bee-line for the female in our party. She forgot everything but first principles, screamed and ran. The chuck passed over the exact spot where she had stood, went on several rods, and disappeared down a hole under a stone. Evidently he knew women; he expected her to get out of the way!

We now investigated the defeated rival, who had disappeared over the river-bank, which was at this point a sharp escarpment of clay loam, perpendicular at the top and sloping a little six feet below at water-line. Sure enough, beneath the overhang of grass, squatted cowering on the mud, was the other woodchuck, looking up at us with bright, terrified eyes as we lowered a stick to poke him into the water. He was evidently extremely loath to take to the stream, but the stick was insistent, and after futilely snapping at it several times, once getting such a grip that he almost pulled it out of our hands, he finally fell into the water, where he turned tail to the shore and swam rapidly to the other side, climbed out, shook himself, scrambled up the bank, and ran clumsily, but swiftly, away in the grass.

The woodchuck shows strategy, too, not only in

his fighting, but in the construction of his defensive works, his burrow. If you will take careful note next summer, on your walks, of all the woodchuck-holes you come across, you will probably be surprised to find in how many cases the animal can secure an outlook of considerable radius either from the mouth of the hole or a point conveniently near it. It may be in the open pasture, when it is more likely to be on a slope than in a hollow, thus securing both outlook and better drainage. It may be among rocks, but within easy distance of some peak which commands a prospect. It may be in the woods, in or under a fallen log, but the chuck can climb the log to look about. It may be among the scrub growth by an old stone wall, and you will say, "Ha! here is an exception!" But do not be too hasty. Some day, passing the spot, you will see a shrewd face and a fat body up on the wall. The woodchuck "digs in" like a modern army. But, like an army, he also puts his trenches where they can command the approaches.



His burrow usually commands a wide prospect

Any boy who has skinned a woodchuck has been impressed by the thickness and toughness of the hide over the head and neck, and in the shoulders. This thickness, I suppose, has been developed by its habits of burrowing, and is due in no small measure to the fact that an animal which makes a tunnel

in the earth does not remove all the material by any means, but rather pounds or pushes it against the sides, thus in one operation both enlarging the bore and firming the walls. If you will note a woodchuck burrow in rocky, packed soil, and one in a loose, sandy loam, you will find that the earth pile at the entrance is almost invariably larger in the former case, while in the latter it is sometimes hardly noticeable, there being only a hole into the earth.

There is a good deal of dispute, and considerable conflict of evidence, regarding the attitude of the mother woodchuck toward her young. It is generally stated that she turns them out at a very early age into a cruel world, to forage for themselves; there are even stories recorded of mother chucks who pushed up their young, one by one, to the mouth of a burrow to appease the dogs who were trying to dig a way in. This is certainly a reprehensible line of conduct, but, fortunately, there are compensating records of maternal devotion. My most recent record is the testimony of a Yankee farm boy who is a mighty hunter before the Lord (and behind His back as well, for he hunts on Sunday). Using nothing but rusty traps which he never touches with his bare hands, he has covered the outer wall of his father's barn with skins nailed up to dry, the biggest always eliciting from visitors the comment, "That must 'a' bin a hefty one!" Fred says that the other day he caught a baby chuck in one of his traps, and when he came up to the hole, on his regular tour of inspection, the mother was trying to get the little fellow out, and she refused to



You will see a shrewd face and fat body up on the wall

desist even when he was within striking distance. He could have killed her with a stick, he says, from which I infer that he had no stick, for it would require the combined eloquence of Daniel Webster, Demosthenes, and William Jennings Bryan to persuade Fred to spare a woodchuck!

When the baby chucks are no bigger than rats they go out from the burrow and will often scatter to a considerable distance, either feeding or sunning themselves in little balls. That is the time to catch them. The mother, on the approach of danger, rushes to the hole and emits a shrill squeal like a whistle—a sound closely resembling that of the whistling marmot. Then the little balls unwind and come scurrying home. Your object is to get to the hole first and bag them as they rush by. In my woodchuck-hunting days there was sometimes a boy who could imitate the mother's whistle, just as there was sometimes a boy or man who could call the quail up to him. This boy invariably had a box in his back yard in spring, full of young chucks, for the superstition never died that the "Bird and Pet Store" would buy them for twenty-five cents apiece, in spite of the fact that it never did. To catch them he would crawl stealthily to a spot behind and over the entrance to the burrow, and wait patiently till the entire family were off feeding. Then he would whistle, and as the young came scampering for the hole (regardless of the fact that the mother had, perhaps, been feeding beside them), he would capture one or two with his bare hands before they could escape into the ground. Once two boys I knew collected thirty young chucks,

mostly in this fashion, and were hopeful of making their fortune. But as the animals grew, and no offer of purchase came, and the neighborhood learned of the menace, parental pressure, reinforced by community sentiment, brought about a wholesale slaughter.

There used to be more excitement than you might suppose in our woodchuck hunts, for a shotgun is of little use against their thick hides and thicker skulls, unless you are close up, so we had to use rifles. In those days high-power twenty-two's with soft-nosed expanding bullets were unknown. We used to read of magazine rifles, to be sure, but they were only things to dream about. We hunted with ancient smooth-bores fitted for percussion caps and loaded from the muzzle. I can well remember the old bullet-mold, a Revolutionary relic, in which I used to make ammunition. It was much like a pair of pincers in shape. Scrap lead, secured from all legitimate and some illegitimate sources, was melted down in an iron pot on the kitchen stove, and poured into it, one bullet at a time. Powder was carried in a genuine powder-horn stopped with a whittled wooden plug worn dark and smooth. We estimated the charge by fingers, measured on the ramrod. And how those heavy old guns kicked against our youthful shoulders!

To get a proper shot at a woodchuck required some maneuvering. He had, if possible, to be outwitted. I remember particularly one place where the holes were thickest, forming almost a woodchuck settlement, like a prairie-dog town. It was on the banks of a swale which curled like a long, thin

sickle-blade through a fertile meadow. This meadow was always under cultivation, and accordingly the chucks burrowed into the banks of the bordering swale, often between the roots of the sycamore and sassafras trees in such a way that the hole could not be made larger by a dog. Sallying forth from these holes, one family could easily eat all the turnips or cabbages for a space of two or three rods. When twoscore families were at work, it is easy to see the extent of their destruction. But it wasn't easy to shoot them while they were feeding, because at the approach of danger they would scamper into their holes. Consequently we resorted to strategy.

Our method was as follows: carrying our guns nonchalantly, we would stamp along directly over a hole where we had seen a chuck enter, whistling or talking as if we had no idea of hunting. Then, when we had passed the hole a good thirty feet, we would suddenly stop and noiselessly and cautiously face about. Very frequently a muzzle would be poking up out of the hole, for as soon as the danger is past the chuck has a habit of sticking his head out to take a sniff of his enemy. Then we would blaze away. Often we would fire anyhow, aiming into the sand or grass at the hole mouth, on a chance. The boy who had the most skins tacked up on the barn door at the end of a season, or at least the most tails, if he was too lazy to skin his prey, was something of a hero. I cannot now remember what we ever did with the skins after they were cured. I fancy that there was a superstition that the "fur man" would buy them, just as the "Bird and Pet Store" was going to buy the baby chucks.

On the upland farms, and especially in the pastures bordering the woods, another method was to



A trophy of the chase

stalk up to the feeding-ground behind trees, and wait patiently for a shot at some fat fellow sitting on his haunches in the sun eating a juicy clover tuft or peeping over a stone which commanded the view,

but threw his body sharply against the sky. The boy with a wise dog, as well as a gun, of course had an advantage always. The dog could start up the game in the grass, and sometimes head him off from his burrow, though the chucks do not, as a rule, go far afield after food. They make their holes close to where the feeding is good. It was possible, too, to kill a woodchuck without a gun or a trap. You accomplished this by "playing statue"—if you saw the chuck out of his hole and also knew where the hole was or could see it. You began by walking stealthily toward the burrow, being careful each time the animal looked at you or showed any alarm to stop stock-still and remain so till he lowered his head and resumed his feeding. Then you sneaked forward again. If you finally succeeded in reaching a point between him and his hole, you sprang at him with a club, and then ensued an exciting five minutes which combined all the athletic excellences of field-hockey, golf, baseball, sprinting, carpet-beating, and sometimes football.

I cannot refrain here from telling again my grandfather's story of his woodchuck, a foxy old fellow who lived down back of the house near the bank of the Ipswich River, and ate cabbages insatiably while defying all guns and traps. My grandfather and his brother Syl. decided finally to drown him out, so they waited till they knew he was in his hole, and then, while one boy stood guard with a stick, the other boy began to haul buckets of water from the river and dump them down the burrow. Watching and hauling by turns, they became weary at last, and hid under a near-by bush to rest. Presently

they saw old Mr. Chuck poke his head out and look all about. Not seeing them, he emerged from his hole, trotted down to the river-bank, and took a long drink!



Sunning himself in lazy contemplation of the landscape

Grandfather used to assure me that they never did get that woodchuck.

Although the woodchuck has so readily adapted himself to changed conditions, abandoning his wild harvesting for more succulent cultivated vegetables, grasses, and clover, by no means all of the wood-

chucks even to-day live on the fat of the land. A neighbor of mine, who has a large orchard of dwarf apple-trees, takes his rifle whenever he visits it, because the chucks are such pests, tunneling under the very roots of the little trees and eating not only the clover crop sowed between the rows, but also the tender bark of the trees themselves. But, on the other hand, I came upon an abandoned clearing in the woods the other day, where once, to be sure, a house had stood, but where man had reaped not, neither had he sown, for at least a generation—and sitting on the mossy door-step of the vine-filled cellar hole was a big woodchuck! He dove off at my approach, and disappeared down his hole, not twenty feet away. His was a considerable house, there being three rear entrances instead of one, or sometimes two, as is more common, and the total length of the burrow must have been at least seventy-five feet. There were no vegetables in this clearing, and only a few wild apples—seedlings, no doubt, from cultivated trees now long dead. The grass was long, and little, clearly marked paths radiated out from the mouths of the burrow in all directions through it. Probably clover, berries, and, without doubt, apples in autumn constituted the bulk of this fellow's diet.

There are still woodchucks, too, who live in the real forest, frequently in hollow logs, though I have found their holes again and again under a stone beneath a big pine or hemlock, or under the network of roots at the base of a huge hardwood. They are much leaner and more active than their fellows of the fields and pastures, for they get less food and

more exercise, and usually they appear rather grayer in color. Their natural enemies must be far less nu-



*A favorite haunt is the network of roots at the base of
a huge tree*

merous than in the old days. In fact, the foxes and the hawks are about the only enemies they have left, except, of course, man; and man doesn't trouble

them much in the deep woods. The foxes will even try to dig them out, and the hawks pounce upon the young when they are running about, both in the woods and even around the farms. Yet the genuine forest-dwellers are probably far less numerous than of old.

I fear it must be confessed that the woodchuck's god is his belly, and he thinks more highly of easy feeding than he does of woodland freedom. He gravitates by instinct toward the mown clover, the turnip-fields, the apple-orchards. He considers man his best friend as well as his worst enemy. Like the rabbit, he is strictly vegetarian, and that has enabled him to survive—not only to survive, but to survive in great numbers—while one by one his ancient and more powerful enemies of the forest have been exterminated, always with the exception of the foxes. He might be almost safe in the deep woods, but he prefers the richer rewards of danger, and though man fights to exterminate him, man also provides him with such a vastly increased food-supply that extermination seems impossible. The story of the woodchuck is a paradox.

Of course, too, another powerful factor in his survival is his hibernating habit. Taking to the cover of the warm earth before even the early November snow flies (and very often, I feel sure, the chucks go back to the woods to dig in for the winter, where the ground does not freeze so deep, for I have more than once excavated a pasture hole which had been inhabited all summer, only to find it empty), the chuck does not have to worry about the lean season. He goes to sleep as fat as a butter-ball, wrapped in

warm, thick, furry skin, and he isn't due to wake up till February 2d, when he has to arouse himself to make a weather story. After that he is at liberty



A denizen of the deep woods

to go to sleep again, though he rather cat-naps, as you and I do after we have been waked of a morning by the birds. He doesn't come up for good, as a rule, till the snow is gone and the earth is softened,

but there is plenty of evidence that he makes occasional trips to the surface

For instance, I find this entry in my diary for February 23d:

On snow-shoes this afternoon, across the golf-links, where a weasel had preceded me, to the slope of mowing where the toboggan-slide has been built. Here there were innumerable squirrel tracks from tree to tree, and a woodchuck had come out of his hole since yesterday, boring up through two feet of snow by a six-inch tunnel. He had made a dirty yellowish track for ten feet, and then gone down into a second bore, evidently into the rear entrance of his house. He must have crossed this path several times to track so much yellow earth upon it, but there was not a single sign that he had taken a step off the path. It was as if he had come up for exercise in his dooryard, as my father, in bad weather, used to go out and tramp back and forth on the veranda.

You might suppose that he would have been lean and hungry, and would naturally have gone after some of those raspberry shoots above the snow near by which the rabbits had been nibbling. But he had not done so, and if you had seen him the chances are he would not have appeared particularly emaciated. The truth is, he was probably too fat when he went to sleep!

The boys still hunt woodchucks as they used to do, for the chuck is their especial prey. Not long ago I came upon a barn hung with more than a hundred tails, the proud trophies of the chase for three seasons of a boy not yet in long trousers. Later I saw him and another boy, and a barking, joyous, alert collie, starting off over a stone wall and across a pasture after woodchucks. They were



Green meadows, daisy-starred, invite the woodchuck from his lair

armed with an ancient gun and a perfect arsenal of rusty old steel traps. They were talking in subdued but excited tones, laying their plans deeply. Scraps of their conversation floated back for a moment—the beginnings of sentences, trailing off into indistinguishableness: “Aw, yes, le’s go—!” “Say, what say if we—” and the like mysteries. A boy, a gun, a dog—and a woodchuck! What memories came back to me! I saw green meadows daisy-starred, and pasture slopes and the gleam of birches, and caught again the scent of raspberries in the sun, and heard across far fields the hot cicada-whir of a mowing-machine; and in my heart I felt once more the ancient thrill as a chuck was sighted. Here, to be sure, before my bodily eye, were meadows and pastures, and no doubt berries grew by the garden wall—but not the same berries. I was not starting out on the hunt. I was not plotting a Napoleonic campaign against a crafty enemy. I was neither huntsman nor adventurer. A woodchuck by a pasture stump a simple woodchuck was to me, and it was nothing more. I grew rather peevishly pensive at the thought. I wanted to be a boy again. I resented “the light of common day.” I always want to be a boy again when I see the youngsters after woodchucks. It is the keenest present-day reminder that any of us can have of the simpler, more earthy and artless delights of youth in the America of a vanishing generation.

FOXES AND OTHER NEIGHBORS

OUR game warden was in reminiscent mood. It was Sunday, nobody had reported any set lines requiring a trip to a distant pond and a search for the offending line and the culprits; the shooting season had not opened. He could sit on the porch in front of his house, with its treasures of stuffed horned owls, pheasants of every breed, partridges, woodcock, deer horns and heads, even the shed antlers of a Berkshire moose (there are now at least thirteen moose living wild in the woods of Berkshire County, Massachusetts, and there are two elk, so called, or Wapiti deer—all, of course, escaped from the old William C. Whitney preserve on October Mountain), and talk at his ease.

"There are more foxes in western Massachusetts to-day than there have been in many, many years," he said. "There isn't the shadow of a doubt but they are on the increase. They are not hunted nearly so much as they used to be, and while they are trapped, probably, a bit more, they are such crafty creatures that it doesn't serve to diminish their numbers. Did you ever have a fox laugh at you?"

We confessed that we had never enjoyed that experience.

"Well, I have," said he. "It was a Long Island fox, years ago. My dad and I were hunting him,

and dad stationed me at the end of a run and told me to wait while he drove him up. The fox came, all right, but before I could get a shot he sprang up on a stone wall—we called it a stone fence on Long Island—and sat there directly between me and a herd of sheep. I couldn't fire without hitting a sheep, and he knew it. He just sat and looked at me a minute, with his mouth open and his sides shaking with laughter. If ever an animal laughed, he did. Then he sprang down right into the middle of the flock, and drove them across the pasture, keeping himself surrounded all the way. I never had a chance at him. When dad came up he was mad, I tell you. 'The old fox laughed at me, dad,' I cried.

"'Who wouldn't laugh at you?' dad said. I guess he knew I was kind of glad the fox got away. My job now is saving wild things, not killing 'em, and while the foxes get a lot of chickens and hens every year, along with partridges, pheasants, and rabbits (they've got thousands of rabbits the past two winters), I'm not at all sure they don't pay for what they take by their destruction of mice and other objectionable things. Anyhow, they're too smart to destroy."

Those people, indeed, who have not made an effort to explore the woods and fields have little idea how much wild life still lives close to our habitations in the old northeastern states, even of the fur-bearing or flesh-eating breeds, from muskrat and mink and weasels up to wildcats. It will probably surprise most readers to learn that from a single village of two thousand people on the Housatonic River in northwestern Connecticut \$15,000 worth of

furs is exported every spring, the majority of them muskrat pelts, of course, but many fox and even otter skins being of the number. A Southern ducky, now a resident of this town, told with pride of the catch made by a friend of his.

"'Twas an o'ter," he said, "an' Sam got fo' dollars a foot fo' dat hide, yassuh, fo' dollars a foot, an' it wore six feet long!"

Even more surprising to most people than the size of Sam's otter, and better authenticated, will be the statement that the treasurer of Berkshire County, Massachusetts, has paid out five-dollar bounties for an average of about eighteen wildcats a year since 1903, when the law went into effect. To the thousands of motor tourists who pass through this beautiful section of New England every season, even to the occupants of the summer estates which dot our hills and gracious valleys, it will doubtless seem strange that so formidable a forest beast as the wildcat should still prowl the woods. It only shows how little most of us nowadays know about our four-footed neighbors.

I have recently acquired a two-hundred-acre farm in southern Berkshire, under the shadow of Mount Everett, or the Dome, as we more familiarly call it. One half of the farm runs up the mountain-side, the other half is comparatively level land at the foot, and the two halves are bisected by the so-called Under Mountain Road, the main motor highway from New York to the Berkshires. On a pleasant Saturday in summer I suppose as many as a thousand cars may pass my door. Yet one of the first discoveries I made in going over the land was a fox's

den not more than three hundred yards back from the road, on top of a rocky nub covered with large sugar-maples and trailing bittersweet-vines, in the open ground. It was quite fresh and constantly occupied, for a plain path led away from it through the vines to the field below. This path was about ten inches wide, and perfectly plain to a casual glance. Probably the puppies had been using it all summer (it was August 1st when I found it). I have waited patiently near by many an hour since, when I should have been working, for a sight of them, but so far in vain. About six feet from this fresh burrow is an old burrow, last year's apparently, and just outside the mouth, on the upper side, is a pile of bleached bones six inches high and a foot across. There were at least three chicken wish-bones in the pile. Yet the farmer of whom I bought the place had an active and sagacious dog. I suppose when I get the farm stocked again I, too, shall pay tribute. But I shall make the old fox reward me with a puppy for a pet.

Did you ever have a little fox for a pet? No animal on earth has such a bright, sagacious face—as, indeed, no animal on earth is so sagacious, so capable of reasoning and of applying experience to new combinations of circumstances, which is but the proof of reasoning. When I was a little boy of six or seven I had a pet fox all one blissful summer. He was one of a litter captured by a farmer, and had been raised by hand. The rest died, but by late June, when he came into my possession, this little fellow was a hardy, active, well-formed foxling, with a big, swinging tail and the two brightest,

snapping, twinkling eyes in the world. He lived in a dog-house by the barn, on a long chain, and went into canine spasms of welcome when I approached, leaping at once to my shoulder, where he would sit and chew off the rim of my straw hat like a puppy. Once he got hold of my ear by mistake, and I learned that foxes have teeth. He would go around with me on a leash, nearly pulling me off my feet, and showing no fear whatever of human beings. But as he grew larger he developed a too active dislike to other people, though never to me (nor did he, as I recall, become inactive and broodingly morose, as so many captured foxes do). At last it was decreed that he must be shot, however. My tears and pleading won for him a mitigation of this sentence to banishment to the woods, and one late August day his collar and chain were removed. He made a couple of glad bounds, trotted leisurely off across the fields, and was never seen by me again.

But by no means all captured foxes will thus take to the woods. A friend of mine brought up a puppy once which he used to release every day. The fox would trot off to the wilds and the dog would go baying after it. Invariably the fox, after leading the dog a chase for a while, would come panting back to his kennel, lie down, and go peacefully to sleep. He knew the dog wouldn't molest him there.

The approved method of capturing fox puppies is to dig them out. It is not much practised hereabouts, but farther north, where fox-farms abound, even the lumbermen are such hunters. The efforts of the mother fox to save her little ones are sometimes pathetic. A year or two ago, in the woods of



Reynard springs on a mouse

northern Michigan, two lumbermen saw a fox's den and poked into it. Nothing happened, so they went on. Returning at night, they saw that fresh tracks led from this den to a newly dug burrow not far away, and surmised that the mother fox had moved her family. Thereupon they started digging. As they dug they could hear the fox digging ahead of them in the ground, and it became evident she was tunneling in a circle, to reach the entrance ahead of them and escape. So one of the men dug ahead to cut her off, and the other dug behind her. The latter digger came speedily upon four puppies, and the former reached the old fox herself. She had been forced to abandon most of her litter in her mad effort to escape; but she was carrying one baby with her, all she could hope to save. Two other men from the same camp found a fox's hole in a fallen, hollow tree and started to chop the family out. In this case the mother drove all the family—five again—up the center of a hollow branch ahead of her. The choppers came upon her from behind. They tied her hind legs together and then tied this thong to a pole, thus pulling her out from a safe distance, for she was fighting mad, and a fox's bite is not a pleasant thing. In front of her were the pups, the foremost one so jammed into the rotten wood near the end of the branch that he could hardly breathe. This litter was more than a month old, and every one of them lived in captivity on the near-by fox farm.

It is in winter, of course, that you can most readily track a fox and find his hole. Unlike the average dog, he leaves but two prints in the snow

instead of four, unless he is jumping, and his paws are smaller in proportion to the length of his step.



A midnight vigil

When he is comparatively undisturbed, he will often make a regular path to his den. For three or four

years now a fox has burrowed on a certain steep and rocky hillside near our village, always close to the top, and as soon as the deep snow comes he establishes a regular trail up to his dwelling. Out in the fields below the hillside forest his tracks may be seen coming from all directions, but once in the woods they speedily converge into a path about eight inches wide, trodden down six or seven inches into the snow, like a tiny snow ditch. This path leads up the rough slope in a winding direction, taking frequent cover under the tangle of laurel-bushes and passing under the south side of almost every overhanging boulder. Apparently this is because the snow often melts down to bare ground under such sheltering rocks, and the partridges and pheasants huddle there for food or shelter. No doubt the fox comes sneaking down his path, which invariably is concealed from the lower side of the rock till it suddenly swings in under, and pounces hopefully for game when his nose or ear gives him warning. Near the top of the hill the path disappears into a round hole in the snow, dirtied with soil from the animal's belly, and ten feet up is another hole, apparently little used, which may or may not go into the earth or be merely the end of a snow tunnel to facilitate escape. I have never had the heart to disturb it, for this fox is an old settler, and the winter woods would not seem right without his tracks. At night I have heard him barking, a thin, querulous, husky bark, but never emitting the somewhat panther-like scream that foxes do at times give vent to—it is said most frequently in spring. This scream, heard near a lonely dwelling in the

country, may be extremely terrifying to the ignorant or nervous. The illustrator of this book once waked his ten-year-old son, a great lover of wild animals and birds, to hear a fox which was screaming on the edge of the woods behind the house. Although he was told what the noise was, the little fellow burst into sobs when he first heard it from the close dark outside the door. It is a sound totally unlike the rather canine bark of the fox, and quite unlike a dog's howl, also. It is much more catlike. Just what its significance is nobody seems certain. It may be a male challenge call. But in mid-July last summer I was awakened by it, or, rather, by my wife, who bade me listen. I sat up in bed on the sleeping-porch, and suddenly from the very edge of the woods, not one hundred yards away, came the most blood-curdling yell I ever want to hear. The dog, who slept outside, was silent, and we were so amazed at this that we went down-stairs. It was a still, starry night. The dog, only mildly excited, was standing with nose pointed toward the woods, and tail swinging, as he might have done had he seen a canine friend in the offing. The scream came twice more from the shadows, and then ceased. The next night we heard it again, farther away and across the road in a swamp. Again the dog did not even bark. The meaning of these screams, and of the dog's almost complete indifference to them, I do not attempt to explain. I only know the incident happened in midsummer, not in the mating or breeding season.

There is one ridge of rock and scrub timber overlooking the Housatonic Valley in northwestern Con-

necticut where as many as a dozen foxes' holes have been found in a season. This ridge is a couple of miles from the village, and from it you look eastward over a swampy country to the wall of a wooded mountain where wildcats live. The foxes make their holes here underneath the large surface boulders and the snow in the woods in winter is covered with their tracks. They probably go considerable distances for their food, and no doubt rob many chicken-yards, especially in summer, when they can stalk under cover; but they must also feed largely on mice and woodchucks, birds and rabbits, the last abounding in the swamp below. That foxes travel long distances to definite objectives can be readily inferred from their tracks. Again and again I have come on a fresh fox track leading across a wide open space which he had traversed the night before or perhaps early that morning, and this track would not vary a hair's-breadth from an air line. If you will try to walk across a snow field a mile wide and keep an air line you will realize that only the utmost concentration of mind and vision upon some definite objective on the farther side will enable you to do it. When the fox is startled he usually is so sure of himself that he merely seems to glide into a faster trot. But sometimes he will gallop, and then he is a pretty sight, all grace and speed and animated nerves. It is a peculiarity of foxes, too, to pretend not to see you. J. M. Barrie tells how he brought a Scotch sheep-dog to London, and the dog rushed at the sheep in a London park. When the sheep paid no attention to him, he raised his head with what dignity he could and continued to bark, pretending

he had been barking at some birds in a tree all the time. A fox seems to have the same canine trait. I was sitting once on the edge of a wood,



A dash across the open by an air-line track

reading. A fox came down wind amid the thin birches of the forest fringe, not hearing or scenting me, intent on some business of his own. Suddenly he got the scent, raised his head, took one look, and then pretended he hadn't seen me at all, but that his trail led off at a side angle into the woods. He followed it with exaggerated indifference. Coasting

down a long hill near Litchfield, Connecticut, the other day, with my engine off, I saw a beautiful big fox sitting on a stump by the road, back to. I was only a couple of hundred yards away when he heard me and gave an instinctive spring off the stump away from the road. But he no sooner landed than he seemed ashamed of himself, and deliberately turned, crossed the road in front of me, trotted rapidly but calmly up the lee of a pasture wall to a safe distance, and then sat on his haunches and watched me slow up the car to observe him.

The fox hunts, in many ways, like a dog, though his ears are far keener, so that he can hear a field-mouse squeak several hundred feet away. He pounces on small prey like mice with his fore paws, just as a field-trained dog will do, and when he digs out a woodchuck he will keep backing out of the hole and taking a look at the rear entrance to make sure his quarry is not escaping, exactly like a good working Airedale. There are many authenticated instances of wild foxes making friends with farm dogs, too, and playing with them. Whether this is a ruse to make chicken-hunting safer, or merely a sign of kinship, nobody can certainly say. It is hard to believe the former, even of so clever an animal as the fox. When it comes to fighting he is quite as good as some dogs, and far quicker; but, of course, he finds it easier and very much safer to resort to strategy.

Any one who sets out to accumulate fox stories, especially from old-time fox-hunters, will soon have a collection that will tax his memory and, not infrequently, his credulity. One of my old trapper

acquaintances, who is highly successful, never, of course, touches any of his rusty fox-traps with his hands, and uses every other known precaution, yet he says he has buried a meaty bone under the same snow-pile for a week, to find it dug out by a fox the next morning, and then, on the morning after he had at last placed a trap beneath the snow-pile and the bone, found tracks all around, but not a sign of digging. On the whole, I think the best fox story that I know, and one which cannot be questioned, was told to me by Hamilton Gibson, a son of William Hamilton Gibson, the beloved artist-naturalist. When the younger Mr. Gibson was about seventeen, in Washington, Connecticut, he was the proud possessor of a speedy, high-bred Kentucky fox-hound, a real fox-hound that made the local dogs look like amateurs. He was walking with her one snowy winter day when she picked up a track in a field and began to run it. This track, her master noted, was that of an evidently injured fox, one hind-paw mark being consistently missing.

The dog was working up a slight incline, toward woods and a large rock, nose half buried in the snow, and had almost reached the boulder, when suddenly from behind this rock a big fox sprang out directly in her path, obviously to attract her attention. She was off after him in a flash, her silvery challenge ringing out. There was no use in his trying to follow, so Mr. Gibson sat down to wait, knowing that if the dog lost her prey she would return here to the first track. Sure enough, after an hour, back she came, panting, weary, a bit crestfallen, got her nose into the original scent

again, and began working busily up toward the woods.

Then, no less to her master's astonishment than to her own, what was to all appearances the same big fox sprang once more from the edge of the timber, directly into her path, and led her off a second time on a wild chase. Mr. Gibson, investigating the original trail, found it continued into the woods, with only the three paws treading. No one could say, of course, that the big fox which twice put itself in the dog's way and led it off the trail of this injured animal was the cripple's mate; but there was every indication that he was, at any rate, deliberately inviting two contests of speed and skill with the best dog in the neighborhood in order to protect another, weaker member of his kind and give it time to get to a den. Not only had he led the dog astray the first time, but he had either anticipated the dog's return to the original trail or had actually followed her back to be ready for emergencies. From such intelligence and devotion as this it is impossible to withhold one's undiluted admiration.

Over on the mountain, across the swamp from the ridge where the foxes den, is a reservoir, high up in the woods, and here wildcat tracks are seen every winter and once in a while one of the beasts, crouching, perhaps, on a log fallen out into the water, watching for fish. But only the craftiest hunter is thus rewarded, for the wildcat, or bobcat (*Lynx ruffus*), is as shy an animal as remains in our Eastern forests, in spite of the fact that he is the fiercest and most formidable. The full-grown cat

is about thirty-eight inches long (including six inches of stiff tail). His hair is shorter and redder



*The wildcat is the shyest animal of our Eastern forests,
and yet the fiercest and most formidable*

than the true Canada lynx, being mixed white and black only on the under side, and his paws are much smaller in proportion to his body, though they are

large enough, and seem out of all scale with his head. Just as the domestic cat differs from the dog, the wildcat differs from the fox. He is self-sufficient, aloof, unsocial, and capable of great fierceness. I have seen but one in captivity, and that was a female caught as a kitten in the northern Massachusetts hills. She never became tame, and as she grew larger she spit through the bars of her cage, with terrifying ferocity. Finally she attracted another cat in the woods near by, which used to emit wild yowlings at night, and the neighborhood decreed an execution.

The great bulk of our Berkshire wildcat population lives in the so-called hill towns, some miles from the railroad and cultivated valleys, though they frequently come down to the edge of the plain in winter. They make their homes in the great acreage of second-growth timber and scrub over the rocky slopes, and, the trappers agree, prefer fallen hollow logs for their nests, but will use tiny natural caves lined with dead leaves. In summer, when there are plenty of mice, rabbits, and birds, it is almost never one of them is seen, though you will occasionally come upon a wild-catnip bed rolled down and trodden. This is not always the case, however, for last summer our game warden and his wife, while camping at a mountain pond near the state motor highway over Jacob's Ladder from Springfield, were followed by a wildcat for several hundred feet. It was in the evening, and they were walking along a back-country road through the woods. The cat, which evidently had kittens somewhere about, followed them in the bushes beside

the road, snarling and spitting, and they could not only hear the bushes crack, but they now and then could see the two lights of the animal's eyes. The warden had no gun, and declares, "It was an unpleasant five minutes—for my wife, of course!" As soon as they reached the clearing the cat ceased to follow.

But such an experience in summer is rare indeed. In winter, however, the cats are forced by hunger to prowl farther afield, and even to rob henroosts. Then their tracks are not infrequently to be encountered, and the trappers and hunters get after them. A few winters ago a man in Mount Washington Township, in the southwestern corner of Massachusetts, was walking with his dog. The dog picked up a fresh trail and set off in full cry. The man, thinking the track that of a fox (he could not have been much of a woodsman), snatched up a heavy club and followed. Presently he heard sounds of a fight just under a ledge below him, and without hesitating he jumped over. He was the most surprised man in the state of Massachusetts when he landed with both feet on the back of a bobcat. The cat was in process of disposing of the dog, and was rather put out at being thus rudely disturbed. It got in one good lacerating blow at the man's leg before a crack on the head with the club stunned it and it could be killed. The proud hunter limped home and had his trophy stuffed, and exhibited it in a store window in Great Barrington.

There was another wildcat in our neighborhood known as "Old Stub." He was caught in a trap, gnawed his foot off, and escaped. The stub healed,

and thereafter his three-footed tracks were unmistakable in the snow. He was never caught in a trap again, but contrived to extract the bait over and over, to the rage of the trappers, who made common cause against him with dogs and guns. For three years he eluded them, till Old Stub had begun to be a kind of hero. Finally he was brought to bay and shot.

How much the snow has to do with the fate of forest animals is well illustrated by the records of wildcat bounties. In 1916, when the snow was the deepest in at least a generation, twenty-eight cats were accounted for in our county. The previous year but fifteen were killed, and the next winter, when the snow was very light, only eight.

Of course the wildcats and foxes are not the only wild animals in our woods which subsist on flesh. To the number must be added mink, weasels, otters (largely a fish-eating mammal), raccoons (which also eat corn and other vegetable products), and skunks. Mink, weasels, and skunks are closely akin. The 'coon (which does not show any serious signs of extermination) is said to belong to the bear family. All of these animals, particularly the mink, are sought for their fur, and the otter, especially, is becoming extremely rare. However, it is a curious fact that in the last three or four years there are signs that the otters are growing more numerous again, or, better, less infrequent; and this is undoubtedly due to the fact that the scarcity of them, and of other fur-bearing animals, has gradually forced the older trappers into other occupations, while the younger generation is hardly trained at all in wood-

craft. As their enemies decrease, the last few otters, with half a chance for life, begin to restore their breed again. The constantly increasing pollution of our larger streams, with banks most suitable for an animal of his size to nest in, must have had much to do with his disappearance, as well as the lust of the hunters.

I saw an otter only last spring on the bank of the Housatonic River where it flows through the links of the Stockbridge Golf Club. He was running along above the water, on the steep, muddy slope, and when he saw me he simply made a toboggan of himself and slid down, swimming off at a rate of speed that would have done credit to a pickerel, and leaving, for a few feet only, a surface wake like a just submerged torpedo. The river is so polluted, however, that no fish can live in it except German carp, and any sensible otter would seek some tributary to ascend as soon as he could. He might not even wait, but go overland, dragging his long body and powerful tail through the snow or mud. An otter's tracks in the snow are quite unmistakable, and frequently go for long distances overland. I have heard trappers affirm that an otter will travel seventy-five miles in a night, by crossing overland from one headwater to another, or one pond to another. While so great a distance would be difficult of proof, it is easily proved that an otter will cross several land miles from water to water, and he could certainly swim the remainder of the distance in a very few hours, if he desired. It is on their portages, as it were, between ponds or headwaters, that the trappers usually catch them.



The otter will frisk on the river-bank like a puppy

Sometimes you will encounter the slides on the steep river-bank where the otters play. Like seals, they are extremely frisky and sportive, and will climb a bank to slide down into the water by the hour, like small boys on a sawdust pile, or two of them will pull at a stick like a couple of puppies. In the water they are marvelous swimmers, and can catch any fish they set out for. Last winter a fisherman on Goose Pond, in the hills back of Lee, Massachusetts, caught a large otter on a hook. He had lost three baits, and finally put a huge one on a big pickerel hook. He got a strike immediately and pulled.

"I thought I had the bottom of the pond," he said, exhibiting the four feet of glossy, seal-brown body which was worth more to him than any fish.

But our annual catch of otters now is relatively very small, and few are the younger people who have ever seen an otter cub playing with a stick in the water or sliding like a small boy down a slippery bank, or found his burrow into the bank, with its entrance below water-level.

Most of us, however, have seen a skunk! Indeed, that family is fortunate which has never owned a puppy whose natural curiosity led him to investigate the strange visitor, only to rush half blinded into the house, searching for a familiar sympathy which was suddenly and rudely denied him. It is rather odd that an animal so actively disagreeable as the skunk can be, and consequently so persistently shot at, should so successfully survive even close to populous centers. Probably the reason is that his very unpleasantness makes him com-

paratively immune to molestation by other animals, while he can subsist on a more easily acquired diet than the much more formidable weasel or mink. Far less active than either of his cousins, far less clever and crafty, you will see ten skunks now to one weasel, and twenty to one mink, at least in our section. Skunks are easily tamed, it is said (frankly I never domesticated one), and are not necessarily offensive. If they are not frightened they remain odorless. Many years ago the proprietor of a Berkshire hotel, a tender-hearted man, gave positive orders that no skunks were to be killed on his premises. The animals used to come up to the garbage-pails behind the hotel in the early evening to feed, and after a brief season of protection they became so tame that the guests would go out to watch them, as you go out to see the bears behind the inns in Yellowstone and Glacier parks. At times there would be as many as a dozen skunks in the yard. But this proprietor is dead now, and the custom died with him. Skunks still come up to the garbage-pails in our town, however. In winter I have often found their tracks around mine, and, alas! the dog had found more than the tracks. They also breed near our dwellings.

Not long ago, at the golf club, we were troubled by little holes appearing in a certain fairway every morning, just large enough to give a ball a heavy lie. At first we thought the crows made them, but one of our workmen insisted they were made by skunks. At last he arose very early and saw an animal at work. We did not find its hole, however,



*If he is not frightened, the skunk is quite inoffensive
and harmless*

for some days—not until a foursome was astonished by the sight of three little black-and-white kittens (as they first thought them) playing on a near-by putting-green. These kittens were so tame that they allowed the caddies to touch them, while the players, with adult apprehensiveness, kept a watchful eye for mamma. The kittens presently ran under a fence, and then under a small tool-house in the adjoining cemetery. A benevolent (and somewhat timid) greens committee left them in peace. Just what it was the old skunk dug from the turf I was never able to determine; presumably some kind of grub. The holes she made were about an inch deep, and of nearly the same diameter. The next season there was no nest under the tool-house and no holes in the fairway. Skunks also eat largely of grasshoppers and similar insects. But, like their cousins, they are quite capable of destroying chickens, and a skunk's burrow by a hen-yard is a signal for traps and gun. My boyhood is filled with memories of days when the death of a skunk meant a family exodus to the other side of the house, and a stern parental refusal to allow me to skin my quarry.

The skunk's little cousin, the weasel, which is less than a foot and a half of compact muscle and fierce sagacity, which is quick as lightning and as sly on the hunt almost as a fox, never seems to have been much more numerous than at present. It is fortunate that his numbers are not greater, for he is a bloodthirsty beast, quite capable of killing a domestic hen, a sleeping partridge or pheasant, a rabbit. He is hated by the farmer especially, for he is so small

that it is almost as difficult to keep him out of the hen yard or coop as it would be to exclude a squirrel; he is shy of traps and, among all animals, about the most troublesome to get a shot at. If you have ever seen a weasel poke his sharp face up through a stone wall, get sight or scent of you (he works largely by scent), and then travel along the wall with great rapidity to get out of danger, you will realize his cunning. He can be almost snakelike in his bodily movements as he keeps obstacles between you and him, and he can absolutely disappear from sight, when he wishes, with uncanny magic. I have seen a weasel in winter, when he was all white except the black end of his tail, sitting on a stone wall. I have seen him take alarm and go into the wall like a flash, to reappear instantly twenty feet away, and then to reappear once more clear across an open space of snow, which you would swear he could not possibly have crossed without your seeing him.

Weasels progress by leaps, doubling up their bodies as they land, so that the hind feet track in the front paw-marks, and in the snow the trail looks almost like that of a two-legged creature. When undisturbed or at leisure, these tracks are about a foot apart, or three-fourths of the total length of the male animal. (The female is three inches shorter.) But when a weasel is at full speed he can make ten feet at a leap. In my back lot in winter I find these tracks most frequently around the brush-heaps or straw coverings on the beds, where the mice live. But they also run through a swampy growth where there are rabbits. It is not infrequent in our woods



The little weasel is a cunning and elusive marauder

to come upon a dead rabbit which has been killed by a weasel and his warm blood sucked from the neck.

The mink is four or five inches longer than the weasel, remains a dark brown, almost a black, the year through, and lives chiefly near water, in which he swims and hunts with almost the speed and more than the craftiness of the otter. It was not many years ago that a family of mink hunted in the Bronx Creek where it flows through the Zoo, and lived high on the water-fowl caged there, resisting all traps and guns. Their beady eyes are sharp and intelligent, their agile bodies trim and extraordinarily supple, and to see one of them at work by a stream-side, unaware of you as you lie, perhaps, down wind in a duck-blind, or sitting quietly with a rod, is to get a peep at the cruelty and grace of nature strangely combined.

It is hard to get a good 'coon dog nowadays, I am told—at least in our part of the world. Personally, I'm not sorry, for you cannot have your 'coon and eat him, too. A good many factors are combining, indeed, to make our Northern world safer for 'coon democracy. The 'coons are hunted less (possibly because automobiles are making us more and more averse to hard physical labor); the forests are more and more losing their pine at the hands of the lumbermen and coming into hardwoods, which give the animals nesting-places; and the 'coons, unlike the weasels, for instance, can vary their diet to embrace vegetable products, especially corn, of which they are extremely fond. Then, too, they hibernate in winter, which is a great protection, and here in the

North we have never achieved the humorous, imaginative semi-personification of the 'coon which the



Trees are the instinctive refuge of the 'coon

negroes have imposed on the South, to make the little creature doubly desirable. Certain it is, at any rate, that the 'coons are still numerous in our

Northern hillside forests, and I have found the tracks of their hind paws, like the mark of a tiny shriveled baby's foot, in the spring mud, not over a mile from a populous Berkshire village.

The 'coon gains immunity from dogs and foxes by his ability to climb trees, and he also gains much food thereby, for he robs birds' nests and probably even captures sleeping birds at perch. In a tree he can be almost as craftily invisible as a weasel in a wall.

'Coons are of an inquiring turn of mind, and therefore not hard to catch in a box trap. Once caught, they are easily tamed, at least to a state of acquiescence, not pining as a fox often does, nor remaining savage and resentful like a wildcat. In captivity you can watch them obeying one of their most curious instincts, which is to wash all meat before eating it. No matter if they see you wash it first, they must perform the operation themselves. They take the meat scrap in their front paws, like a squirrel, and then slosh it back and forth in the water, sometimes till it is white and pulpy. I well remember camping once on the shore of the Lake of the Dismal Swamp and hearing in the still night the faint sound of little swishes in the water not far away, apparently close inshore. In the morning we investigated the mud beach and found a dozen or more 'coon tracks leading down to and away from the water's edge. Unfortunately, though there was a bright moon for several nights, the thick mist always lay three feet deep over the face of the lake, and we never got a chance to watch them.

"Varmints," the Yankee farmers used to call these animals of the wild which ate their chickens or destroyed their crops. Presumably the mild, vegetarian woodchuck was included in the epithet, however incorrectly. But we are slowly learning that the balance of nature is something which should not be too rudely disturbed without careful investigation. We have learned the lesson—a costly one—with regard to our slaughtered forests and shrunk water-powers. We are learning it with regard to our birds. And it is certainly not beyond the range of possibility that the varmints—the flesh-eating animals like foxes, weasels, 'coons, and skunks—perform their useful functions, too, in their ceaseless preying upon rodents, rabbits, and the like, more than atoning for their occasional predatory visits to the chicken-roost. At any rate, who that loves the woods and streams does not love them the more when the patient wait or the silent approach is rewarded by the sight of some wild inhabitant about his secret business, or when the telltale snows of winter reveal the story of last night's hunt, or when the still, cold air of the winter evenings is startled by the cry of a fox, as he sits, perhaps, on a knoll above the dry weed-tops in the field and bays the moon? To me, at least, the woods untenanted by their natural inhabitants are as melancholy as a deserted village, an abandoned farm, and I would readily sacrifice twenty chickens a year to know that I maintained thereby a family of foxes under my wall, living their sly, shrewd life in frisky happiness, against all the odds of man.

My next-door neighbor has recently had an ex-

perience which made him think more of the cruelty and less of the grace. Four of his ducks got out of the pen one day and waddled down to the brook. He did not discover their loss till morning, and set out after them. Two of them were swimming around, one had disappeared completely, and the fourth lay half on the bank, half in the water, dead, its throat torn and bitten. He left its body as a bait and set three traps around it. But though he caught first a crow and then a marsh-hawk, which dropped down to investigate, he never got the mink. It is only the craftiest trapper who can get a mink; and great his rejoicing now when he does, for the prime skins are bringing double figures. After all, the hunter is not alone to blame if our wild life disappears. His wife has much to answer for.

IN PRAISE OF TREES

TO paraphrase Butler's remark about the strawberry (was it Butler's?), doubtless God could have made something more beautiful than a tree, but doubtless He never did. In my boyhood, it seemed a little curious to me that a certain man in our town should employ his Sundays going around the country photographing our best trees, interviewing "old settlers" to ascertain the date they were planted, and finally writing a little book about them, illustrated with his photographs. The book, privately printed, was eagerly procured and read by my father, who detected an error of fact on page 37, regarding the span of the Nathaniel Emerson oak, which resulted in much controversy, and finally in a trip to the Emerson place with a tape, and the discovery that one of the lateral branches had been cut off some way back from the tip, because it was threatening the chimney of the house. So my parent and the author were both right. Now as I leave boyhood farther and farther behind, it seems less and less curious to me that anybody should spend his leisure in the gentle contemplation of trees or become excited over their dimensions. In fact, it seems curious to me that anybody should find such occupation curious.

My Berkshire house sits at the head of an ancient orchard and looks, on one side, up a steep, high,

densely wooded mountain shoulder; on the other, over rolling fields plumed with maples and sentineled with little cedars, to the pines on a hill and the wall of tamaracks edging the great swamp. Trees are my cloud of witnesses. Ever they surround me, and from the once contemptibly familiar they have become, to eyes grown wiser in seeking beauty and solace in the familiar, a constant source of charm and wonder and delight; and of pride, too, for our North American trees, our thrice familiar Yankee trees, are as beautiful as any in the world, and just as we once went far astray in our architecture from the native style we should have developed, so in our landscape gardening we went astray—far astray—from the lessons our own trees might have taught us.

Oddly, perhaps, winter is the season to begin the study of trees, pictorially considered, as the architect must base his work on knowledge of the frame, the anatomist on knowledge of the skeleton. A skeleton, however, is hardly a lovely thing to contemplate, in a closet or elsewhere. But a leafless tree is wonderful and fair. I once studied "fine arts" under a pupil of Ruskin (may one still speak of Ruskin?). Aside from learning that Beacon Hill purple window-panes were not originally purple, but have been tinted by a century of sun, like the windows of Chartres and Amiens, and also acquiring some very slight proficiency in handling a paintbrush, I cannot say that I greatly benefited by this course of study, except in one unforgettable respect. I learned, from a chance remark of Ruskin's, quoted by my teacher and illustrated by one of "the mas-

ter's" water-color sketches, that the "line of life" exemplified by a naked twig is one of the most beautiful things in nature—as well as one of the most difficult to delineate. To make a faithful study of a naked elm or sugar-maple, or even of a lowly shrub, is to learn humbleness of wrist and boundless respect for the marvelous rhythms of nature. Consider any branch, from trunk to tip, and see how individual are its various seasons of growth, and yet how the *impulse of growth*, the constant extension of itself, its reaching outward or upward, its life-line, unifies each separate curve, or twist, or rhythm, into the perfect, indivisible whole. A slender twig, or a forty-foot tree limb, has, when carefully considered, the same effect on the eye that a perfect, spontaneous, completed phrase of melody has on the ear. It flows and grows, through variation, to the completed whole that binds each bar to the predestined master rhythm.

Out in a pasture not many miles from my house stands a big hop hornbeam, an unusual specimen, at least with us, for the hornbeams, as a rule, are found chiefly near the swamps, in thick mixed stands where they do not reach large diameter and resemble, in bark, an elm. The other day just the right light cut this hornbeam's crown against the sky, with its massive trunk against the red and gray of a distant snowy mountain. I greeted the old fellow with real affection, for he had never before seemed so rugged, so massive, so eloquent of his myriad struggles for existence—since each limb and twig is, after all, but a sign of struggle for air and nour-

ishment. His lower branches, forced out horizontally, or even downward, by the shade of the top,



*The massive trunk of a hornbeam against the red and gray of
a distant snowy mountain*

seemed actually to writhe in their efforts to reach out to the sun, and were full of sharp crooks, each

change of direction a tentative quest for the way out of the shadow, yet all the crooks and turns unified by the impulse to grow, to keep on, each limb a living melody. Where the great trunk broke into limbs was solid strength; where these limbs, reaching ever upward, finally dissolved in spray against the blue-gray sky was lacelike delicacy—a resonant major chord, a whisper on the strings. I could not find a limb that was uninteresting, a limb that, if followed to its end, did not give the eye that satisfaction of a living line which knows from the beginning where it is going and is ever on the way. And what a self-sufficient personality the whole tree had!

An even more interesting tree, I think, is a huge old sycamore I pass on the way to the village. The sycamore, of course, gains a winter charm (and, to a less extent, a summer charm) over other trees, because of its mottled bark, the great bare patches of ivory-white, or even paper-white, alternating with a soft snuff-brown on trunk and limbs. It ascends smoothly, too, from its wide base, without shouldering roots, giving it a certain air of trim ease, even when it is a huge old giant. But my sycamore on the village road, more than any I have ever seen, has an oddity of branch growth which makes me tip my head back every time I pass it and look up to its ninety-foot-high top. Growing in the open, it has a perfectly symmetrical crown, and the mottled limbs, after they have reached the slenderness, say, of your wrist, begin to progress in a series of explosions, each explosion sending out several branchlets, exactly as you have seen a rocket burst

in air and send out several stars which trail a line of light behind them till they, too, burst and send



The sycamore gains a winter charm over other trees because of its mottled bark

out yet more stars. Yet, far from being freakish, this sycamore is greatly admired both for its size

and beauty, and does not impress the casual observer as in any way odd. So successful is a growing limb, by means of its line of life, in maintaining the pleasing effect of unity.

The sycamore, in winter or summer, is a beautiful tree, even the younger and slenderer ones showing something of this tendency to explode their new shoots, and opening out their heads with wide-flung branches from the straight trunk which persists to the top, as if to disclose the charm of the mottled bark, even through the foliage. Yet, save for the village of Bedford, in Westchester County, New York, I cannot recall a single town here in the East which has planted sycamores as an adornment (those in Bedford must be almost as old as the township), nor a single use made of them in my part of the world as a conscious addition to the landscape. Those we have are mostly chance survivals down along the river meadows, while we set out imported exotics, or, still oftener, appear to think that landscape architecture exists rather for people who never lift their eyes above chin level and should consist of flower-beds and foreign shrubs.

One trouble is, of course, that neither Rome nor a sycamore was built in a day. It takes fifty years to mature a white pine sufficiently to make an impressive tree, seventy-five years to mature an elm, fifty years for a rock-maple, and I don't know how many years for a white oak or a cedar. One of my biggest apple-trees, a grand old fellow about forty feet tall, with a trunk three feet through and muscular, sprawling branches, developed a bad frost crack not long ago, which killed it, and the other

day I sadly hewed it down—no slight task—and worked it up into a cord of wood. The stump showed it to be between seventy-five and a hundred years old. As my house was built in 1829, it was probably set out at about the same time; and was three generations in developing into a fine old ornament to the lawn and dwelling. Since we Americans have been in too much of a hurry to wait three generations for our landscape effects, and since few of our families ever live on the same place even for two generations, about the only way to achieve fine trees around your house would seem to be to buy a piece of forest—if you can find even forest trees now more than thirty years old!

Yet the same road to the village which passes by the great sycamore runs for a quarter of a mile through a swampy wood, and on this stretch is found an arboreal effect so entirely artless, charming, and spontaneous that I frequently pause to observe it, thinking at the same time of a certain million-dollar estate in our most “fashionable” resort town where exotic Lombardy poplars have been planted in formal, naked rows with no resultant charm whatever. Fringing the road on either side are tall brake, joe-pye-weed, asters, red osier dogwood, and the like, a flower border in the warmer months, a fringe of tracery above the snow in winter. Just behind these borders stand, in casual, irregular rows, slender olive poplars, rising to forest height because they are crowded from behind by the hemlocks of the swamp. Scattered through them are a few gray American hornbeams (ironwood), and a few shad-bushes and swamp-maples, to dress the

forest edge in spring and autumn; but the poplars predominate, and especially on a cloudy day, or a



*Slender olive poplars rising to forest height crowded from behind
by the hemlocks of the swamp*

day of hazy sun when the steam of a February thaw is in the air, they march along in ghostly slen-

derness against the dark backing of the hemlocks, just warmed enough by the yellow in their bark to remove all mournful suggestion, as graceful and upright and tapering a screen for a winding drive as you could well conceive, as beautiful in winter as in spring or summer. Why any human being should desire to plant bare, ruled rows of Lombardy poplars beside a mathematically straight drive, when our own native landscape supplies him with such a model, passes my comprehension. Nor are these particular woods old. Twenty-five to thirty years ago, I find, the swamp was cut over, only a few big hemlocks and pines being left as seed-bearers.

For several years we lived in a small house, set well back from the village street in a five-acre lot. It was not a pretty house—in fact, it was an ugly house. But few visitors noticed this, certainly after the first glance. Some one, presumably our landlord's father, forty-five or fifty years before we inhabited it, had set out trees, and set them out wisely. In front, for a screen, were hemlocks, with a canoe-birch to show its white slenderness against the evergreen backing; several Norway spruces, which had attained such size that their stiff symmetry was broken and their mournfulness somewhat eliminated, and which chanced here not to seem unduly exotic because at the same period they had been planted all over the village, and occupied a definite place in the local landscape; and, finally, a huge old locust, with lightning-stab branches—a veteran, of course, which had stood there for a century or more, like the row of elms beside the road. Beside the house were two crooked old apple-

trees, too close together for ideal fruit, but forming a roof of shade right up to the dining-porch, a roof groined with interesting, gnarled ribs. Then, best of all, not ten feet from the porch, in a kind of corner between it and a one-story wing of the house, were three big pines. Their roots got the water from a gutter-spout, and they had made a fine growth, so that as you sat on the porch you saw only three straight brown columns rising up from a dense woodland carpet of red-brown needles and green ferns. You looked between these columns, as well as under the shade of the apple-trees, out to the sun-soaked, color-filled garden beyond. Above the dining-porch was a second-story porch for sleeping, and into this porch the pines almost thrust their first whispering branches, and against it the apple-trees in May dusted their perfume. The roof of the little ell, under the pines, was green with moss in which falling needles caught. I well remember our amusement once (a little mixed with chagrin!) when the editor of a certain garden magazine came to visit us and could not be persuaded to give more than casual inspection to the garden, because he was so taken with the charm of those mossy shingles, the brown columns of the pines, and the tiny surf of needles, as it were, lapping against the edge of the unrailed porch. But not only were these trees a delightful feature of the prospect from the porch, and in summer a cooling refreshment, in winter a wind-break; from the garden they effectively concealed the bad lines of the house, disclosing only a chimney, a pitch of roof, a bit of red wall, a porch pillar, and a chair with a bright cushion on it.

Every tree helped, but the three pines most of all, towering as they did far above the dwelling on their splendid brown stems. It cost the man who planted them very slight effort to put them in, though doubtless in his lifetime he saw but little of their ultimate charm. Yet for the next generation they were a constant solace and delight.

Then the house was sold out of that family. We, after seven years of affectionate living with those trees, bade them a regretful farewell, though we were moving to a place of our own, toward, at least, the realization of a long-cherished dream. Returning after several weeks on some errand, and also, I fear, to steal a last look at the garden I was leaving behind, I saw something was wrong even as I walked up the street. Yet I couldn't believe my own senses. Hurrying around the corner of the house, however, the worst was confirmed. The three great pines, which for fifty years had been growing their bravest and quickest to convert an ugly house into a spot of beauty, to give it tone and character, to bring close to its occupants, even as they sat on their porch, the inspiration of noble, columned uprights, the fragrance of blown needles, the whisper of the forest, lay shivered and sprawling on the turf, one of them, in its fall, having half demolished one of the big apple-trees that had made an outdoor summer room beside the porch! The house stood ugly, naked, pitilessly exposed. It might have been any house on a raw suburban street. The new owner, with a bland smile of self-satisfaction, came out to explain. He said the pines kept the house damp! (In seven years we had never detected this, by the

way.) Then, seeing my face, he added, "I suppose you think I ought to have left them?"

There are moments when one regrets the inhibitions of courtesy!

I presume by now he has resingled the ell, also. Which naturally makes me think of the Poindexter sisters. When the Poindexter sisters first moved into the small cottage they bought on the one street of the little village, they attracted the attention of their neighbors by tugging pails of earth right into the house from the garden, and then reappearing at the second-story front windows, whence they proceeded to throw the dirt out upon the roof of the porch. Naturally they were at once pronounced "queer." But queerer, less understandable still, were their subsequent actions. They went to the woods for moss and wild flowers, and then, to the complete amazement of the village, planted these things on the shingles! The process was completed by the acquisition of several Virginia creepers, set in against the pillars below.

The village thought something certainly should be done about it, so the carpenter, a kindly man and an authority, naturally, called to remonstrate, warning them that the dirt and moss would rot the roof.

"Then we'll get you to build us a new one," the Poindexter sisters assured him. "We've *got* to have moss on our roof, and we just can't wait for a tree to grow and shadow the house, and *make* the moss."

"But what do you want moss on your roof for?" the poor man asked. "It'll make it leak."

"We can put up umbrellas," the sisters replied. "We *must* have moss!"

They got their moss. Now it is six inches deep, and the creepers have crept up the pillars, climbed over the edge, and mingled their green with the velvet. After a dozen years several people in the village privately confess (behind locked doors) that they like it. Everybody likes the Poindexter sisters—"the Girls," we call them. Still, they *are* queer—imagine throwing dirt. . . .

But to return to the subject of pines. The white pine, of course, needs no encomium, as Daniel Webster said of Massachusetts. Few of our generation, to be sure, to say nothing of the generations coming up behind us, have ever seen white pines at their best. The virgin stands that once dotted our hills and valleys are no more, and it will have to be another two or three hundred years before our descendants can, in some state reservation, perhaps, see again those vast cathedral aisles, those massive-based, aspiring uprights shooting skyward seventy-five feet without a limb, and bearing their plumed tops a hundred and twenty-five to a hundred and fifty feet above the earth, feel again the awe and hush of such a forest where the foot fell silent on brown needles and the wind souged so high aloft it was but a far-off whisper. I know of but one such grove hereabouts—in Cornwall, Connecticut, which some miracle has preserved from the ax of man. Sons of mine, if I had them, should make pilgrimages to it every year! But we all know the beauty of columnar pine aisles on a lesser scale, as well as the beauty of the single old tree which grew in the open, free to throw out its level, lateral branches like a cedar of Lebanon, and, if it stands on some ex-

posed ledge, to fight the north winds bravely till it leans a bit to their buffets, its longer branches streaming southward, its northern side sheared off by the storms, the very picture of triumphant, if battered, pugnacity. How such an old pine befits a mountainous landscape, a place of rocks and windy sweeps! How much more seemly and beautiful it is for true landscape gardening in a ledgy land than all the flower-beds and clumps of hydrangeas you could plant! The grouped pines, too, with their predominant effect of columned architecture, with their dagger stabs of sunset light between the trunks or little upright canvases glimpsed through cool shadow, make one of the most splendid garden screens in all the world. I well recall a certain pine grove in our country which is on the farther side of an orchard, the apple-trees growing right up to the edge. In winter the contrast between the lower, irregular apple-trees, their lines picked out with snow, and the green pines is charming, and in May, when they are bouquets of pink and white bloom, you would go far to see them. The edge of a pine stand is ever a fascinating thing, indeed, for a certain mystery invites from the perpetual seashell murmur, the cool shadows, the columnar aisles. When in winter the snow washes up to the feet of the pines, like surf, and through it the fringe of shrubs and dead goldenrod and other weed-tops makes a fairy tracery of blown, curling spray, some white path into the quietude invites your feet as nothing else, and peace like a benediction seems to fall with the seashell murmur from above, or the soft, tiny tinkle of needles broken

A pine befits a mountainous landscape, a place of rocks and windy sweeps



off by the weight of snow. I know people who affirm that "pines are mournful," and would improve their estates by cutting them down instead



*In winter the contrast between the lower irregular apple-trees
and the green pines is charming*

of properly planting them. But such people would doubtless prefer a motion-picture façade to the Temple of Karnak.



*Through the curling spray of the weed-tops some white path
into the quietude invites your feet*

It is a curious fact that the tree which, with us, in a wild state is the least formal of all, is most formally treated when used in gardening—the cedar. Largely, no doubt, because of Italian influence, we employ cedars in formal groupings, as fountain backs, to half-ring a bench at the end of a vista, and the like. The slender, compact, tufty, architectural pyramid of the cedar is, of course, extremely effective for such work. But still I think its best employment in landscape gardening has been so far neglected, and consists merely in reproducing its natural habits. What those habits are I can show you by a walk down many a happily neglected back road, or even from my windows, where we look out at the rocky slopes of the old sheep-pasture. Along the back road, oftentimes, the birds which perched upon some now vanished fence planted, it may be, a double row of cedars, at pleasantly irregular intervals, which march along beside you as you tramp. But, between them, looking over the ledges, or through the vista, looking into the field that fronts the next bend, you will see their happiest effects, for here they stand, in casual array, like slim, dark sentinels, their feet fixed firmly where other trees would get no nourishment, perhaps, their slender spires rising above the snow or the shrubbery like village steeples above the town, their rich, deep color note, alike in summer and winter, picking out and accentuating the values of the landscape. Their effectiveness begins, too, when they are very small—you do not have to wait. If any one wants to bring them into a formal scheme, well and good, for they fit it. But when they grow as nature planted them,

informally, casually, up rocky slopes and on pasture stubble, they are at their best. My old sheep pasture, with its bare white patches of exposed lime-



*Along the back road a double row of cedars march along beside
you as you tramp*



*White birches on the crest of the ridge shooting their slender-
ness upward*

stone, its pools of prickly yew, its chocolate shrubby cinquefoil, and standing everywhere in the midst the dark little cedars, slim and watchful, is the most charming spot on my farm. Nobody could improve it—he could only strive to copy.

I think we have scarcely as yet begun to realize, in our landscape architecture, the part trees play in accentuating or harmonizing those larger contours of the land which give us pleasure and satisfaction. I came upon a bold and striking effect the other day in which certain trees played an all-important part. Cresting a sharp, snowy ridge, I looked over a drop to the valley, and saw, beyond, the peak of a mountain, its lines almost reproducing the lines of the ridge directly before me. The result would have been uninteresting, if not monotonous, had it not been for certain trees. But almost at the top of the ridge was a sizable hemlock, the leader of others the tops of which could be seen climbing up the hidden slope below. They not only accentuated the sense of dip, brought out, as it were, the aerial perspective, but their dark spires added another element to the linear composition. Still further enriching the linear composition were three or four little birches perched on the crest of the ridge and shooting their white slenderness upward, just enough off the ruled vertical to avoid primness. Not one of these trees was old—they could easily have been planted by a generation still hale to enjoy them. And they converted a rough, uninteresting corner of landscape into a bold, striking composition.

Down along the river meadows and in the hay-fields, too, I come again and again on natural tree

plantings which fall wonderfully into the larger landscape rhythms. Such effects, indeed, have more than once ruined my concentration on the brassy shot that I needed to get my ball across the swales of the golf club. We have been employing elms as shade trees for more than two centuries, over village streets and over our dwellings, and the main street of Stockbridge and the famous Seminary Walk on Andover Hill are eloquent witnesses of our good sense in the matter. But the elm can be much more than a shade tree, especially if it belongs to the round-headed, drooping-branched type. Rising stately out of clustered, lowlier foliage, with shrubby massed at the edge of the clump, its great green domed crown falls superbly, on a summer day, into the rhythm of a far-off mountain seen beneath its branches and the lofty, puffy domes of white cumuli seen in the blue above. There can be no more splendid side wall to a vista. To plant elms only in open, formal rows, or to leave single elms as isolated, "specimen" trees, rising abruptly out of a lawn instead of forming the dome to a wall of greenery, has been a sad waste of landscape material.

The early settlers of our hill country planted sugar-maples before their doors, and in rows along the road—which, by the way, their descendants have tapped till the old trees died, and then cut down, without the gumption to plant more. The sugar-maple is a noble tree, in winter dissolving in a great fountain spray of gray twiggy, in summer a dense crown of leafage shedding cool, dappled shade, in autumn a blaze of cheerful gold. The old, lean-to



The green domed crown of elm rising stately out of clustered foliage

farm-house, with its front flagged path coming down to the road between two shaggy sugar boles, with a great lilac-bush or two on the northern side, with an arched woodshed neatly stacked with logs, and across the way the gray barns and cattle at the bars, was a unique contribution to the American scene, and a type of simple architecture and simple planting which for homely charm, the sense of solid comfort, and, above all, for harmony with the natural landscape, has never since been equaled nor even remotely approached. There is no reason, however, why it should be allowed to perish. Our architects are turning back to the Colonial ideals of simplicity and sense of solid comfort in line and proportion, and the maple-tree is a rapid grower. Beside a corner of my house is a sugar-tree a foot thick at breast height, and much taller than the house. It was set out as a ten-foot sapling less than thirty years ago. Before I pass on I expect to see it almost as large as the trees in the long row of maples which line the highway all down my boundary. A house by a road thus lined seems snugly settled into its place, with an aisle of cool shadow leading to the door, and when, in spring, a pail shines at every tree and as the warm sun mounts you hear the tinkling drip of the sap, you have a sense that here is a place where life is self-sustaining, sufficient unto itself, rich with the fragrance of things of the soil. I cannot imagine our highway without its maple-trees nor wanting to live upon it when they are gone.

Joyce Kilmer, one of our poets who was taken from us by the war, once wrote:

Poems are made by fools like me,
But only God can make a tree.

This may be true, but we can considerably aid the Deity, who, indeed, cannot make some trees at all without assistance in germinating the seed. He could not have continued to make the sugar-maple at the corner of my house, even, if I had not discovered and removed the borer which was beginning to ring it. But, above all, we can assist by replanting trees where some previous generation has removed them, or by taking some thought of the generations to come and planting arboreal delights for eyes unborn. America for a century has been a land of the ruthless ax. We are paying the price now in the cost of our lumber as well as the loss of our landscape charm. Isn't it time to turn to the spade and, for every tree we cut, plant another in its place? I am beginning the spring by planting five hundred. They are tiny things, and I shall never live to see them reach maturity. But I like to feel, as I set their roots in the earth, that I am at least of some slight assistance to the Deity in making the fairest of all His creations.

ENJOYING THE INFLUENZA

IT is very pleasant to be put to bed with the Spanish influenza, especially when you don't have the Spanish influenza. Waking with certain indications of a cold, the autocrat of my destinies put me back to bed in the west room, where the bed is close to a window, and sent for a doctor. The doctor, however, was ten hours in coming, poor man, and after I had given up as useless the attempt to persuade myself that my head ached, or my back was lame, or my bones were assertive, I watched an opportunity to make a dash for my pipe and tobacco, two extra pillows and a bathrobe, and then propped myself up to enjoy a long day with my mountain. (Naturally I forgot the matches, and had to get up again.)

Sitting in bed, I could see the first great shoulder of my mountain leaping up fifteen hundred feet almost from the dooryard—or, rather, I could see it begin the leap, for everything above the thousand-foot level was wrapped in cloud. Yet it was coming on to be a fair October day, it was “burning off,” as they say by the shore, though the expression is seldom heard inland. The sun was already striking rather hazily across the eastern plain and warming the gold and green and russet and maroon tapestry of the forest that climbs the mountain from my back-door yard to the peak, save where a belt of naked

cliffs cut out through it like some vast blunt ship's prow through a giant sea.

From my window I saw the trees, the tall, dark pines apparently in command, stepping up the slope rank on rank, till the leaders grew indistinct and ghostlike as the mist enfolded them, like patient soldiers climbing into the mystery of battle smoke. I saw the cliffs, too, their feet amid the golden, sun-lit soldiers, their naked gray sides rearing up into the vapor, their tops invisible. Without the sun, the scene would have depressed me. I know of nothing more leaden on the spirit than to be shut in by mountain walls which vanish into a cloud ceiling. But with the warm sun striking under from the open east, I had only the exhilarating sensation of vast, unknown height, gained from the stimulus of an upward-soaring line which vanishes into mystery and might go on forever. Here, thought I, is an argument for the imaginative, the suggestive, in any art, but particularly the graphic arts, the art, say, of scene-designing in the theater. My mountain was a scene by Gordon Craig, not Belasco.

As the sun climbed higher and from far off came the *sput-sput*, *sput-sput*, skip—*sput-sput*, *sput-sput*, *sput*—skip, of a gasoline-engine running my neighbor's thresher (if I had really had Spanish influenza, I should have gone mad trying to predict the coming of each skip!), I could see the under fringe of the cloud fray out, sway, twine wraiths of vapor around the trees, untwine again, and always rising, almost imperceptibly but still rising, exactly as if it were a gigantic soft gauze curtain being drawn up to heaven with a superb leisureli-

ness. Up and up it went, a thrilling thing to watch, till I knew from certain landmarks that in a moment I should see blue sky between it and the summit of the shoulder. I suddenly saw the blue sky, but not as a rift between the summit and the lower edge of the curtain. The curtain was no more! It had mysteriously vanished into the blue-and-gold glory of a perfect October day, and lo! Noon, like a blithe young god, stood yellow-headed on the mountain-top and reached for a billowing cumulus to be his cloudy toy.

Here my contemplation was slightly interrupted by the arrival of the mail and a tray of dinner. It is impossible for any one to record in these times that the arrival of the daily paper leaves him indifferent—or, if it is possible, he is surely an impossible person. Yet when I turned my face once more to the window, it was easy, under the spell of the mountain, to slip again from the fetters of baffled thought to the freedom of passive contemplation—easy, and how great a relief! The sun was now in the southwest and striking in on my bed. To the northwest, where the shoulder of the mountain recedes in a splendid curve, a haze of shadow was already stealing out, and between me and the high wall thus dusked rose a lower, near-by knoll, in full sunshine, shutting out from my view the base of the main wall. Both knoll and wall were tapestried with the same greens and golds, but they were in two distinct planes of light, and the sense of space between them, the aerial perspective, was theatrically intensified, exactly as it used to be in those photographs we looked at through a stereoscope. I

thought of the old black-walnut instrument which used to repose, when not in use, on our old black-walnut "whatnot" in the sitting-room, with its box of photographs and *The Boys of '76*. I recalled especially the pictures of "Niagara in Winter," which were my greatest delight. Memories of the old "whatnot" in the old yellow house in the old, quiet days when Middlesex County knew not the motor nor the trolley, when eggs were a cent apiece and you reached grandfather's house in a stage-coach, almost made me forget my mountain.

When I looked again—I don't know how much later—long, chill, wraithlike fingers of shadow were sneaking down the slopes. First they clutched the deeper ravines. Then they took hold of the gray cliffs and wiped slowly off all the irregularities, till the cliffs were stubborn rock no more, no more tempting and dangerous paths to the peak, up which I had often scaled with a rope, but strange, down-dropping sheets of some ethereal substance, compounded of darkness and gauze, which no mortal could scale any more than he could scale a cloud. My mountain would have been chill and forbidding now, had it not been for the fact that high aloft, on the shoulder of the next buttress to the south, the invisible sun, streaming its rays through a gap, played a golden light upon the trees and promised a vision, from that high eminence, over the western world rim into that mystic land which forever lies "beyond the sunset and the baths of all the western stars."

I watched, wistfully, this golden spot-light rise slowly up the shoulder and fade away, chased off,

it almost seemed, by the rising shadows, even as the advancing years drive from our high, ardent, youthful hearts the ache to peer beyond the western world rim. When it was gone the shadow crept in through my window and I was suddenly cold. . . .

Then the doctor came. He was worn out, but cheerful. Indeed, he seemed refreshed at finding somebody who wasn't sick, and prescribed that I get up. I got. I dressed rapidly and sped out of doors, into the woods and up through hemlock, birch, and laurel to the first rocky vantage-point on my mountain-side. I was just in time. The vast shadow of the bulk behind me had already swallowed up the eastward plain, the farms and fields, the village spire, and was just beginning to rise on the long, billowing wall of hills nearly ten miles away. I looked through golden tree-tops, over a great plain of dim, dusky color seen through half-opaque shadow, to the far hills, which were—oh, miracle of autumn!—a frozen wave of amethyst, crystallized against the pearly east.

Before the shadows swallowed them, too, I hastened down, crossed the road, and went eastward over the fields, the frosty touch of twilight in the air, and finally turned to see my whole mountain, cut out of purple, velvet-covered cardboard, a gigantic dome in two dimensions against a salmon sky.

Then night came, and before I went to bed I stood in the open road a moment to sense that huge shadow-bulk towering above me, cutting the stars, upon which later Orion might set a foot to rest, on his endless hunting. How vast the mountains are

at night! It was still and cold. The katydids were silent at last. Only an owl, far up the ravine, hooted mournfully, and an invisible wind, invisible and down here unfelt, whispered on the upper ledges.

It sounded like the rustle of the Milky Way!

"Can it be I have a fever, after all?" thought I, and bade my mountain a hasty good-night.



ADVENTURES WITH AN AX

THERE is no better company than a good, sharp ax. (A dull ax is like a dull person, and breeds weariness and boredom.) Among my happiest recollections of the year are those cold, clear winter days when I go up the mountain, on snow-shoes perhaps, with my double-bitted, long-handled ax over one shoulder and my lunch-box slung from a strap over the other, as the morning sun is waking all the snowy world to a dazzle, and return, weary but aglow with the heat of exercise, as the purple shadows are creeping eastward and the far hills are touched with amethyst. You might suppose that within the compass of such a day was little but rather monotonous toil, hard toil, too, with the chances in favor of cold fingers and uncomfortable feet. But you would be quite wrong, except that it is

hard toil, the harder the larger the trees and the heavier your ax. Hard toil, however, is just what you want on a frosty winter morning, and the rhythmic swing of a four-pound ax, when once you have mastered the knack, and your muscles and wind have grown to the proper stature of endurance, is among the glorious physical sensations, no less delectable and to be savored with endless relish than the soft sensations of cool water on a hot day, or the sharp caresses of desire, or the swing of a well-balanced brassy.

My pasture springs abruptly from the highway right up the mountain-side, so that you pant to climb it, and only the most skilful hazard a descent on skees. At the top of this pasture are several naked outcroppings of the underlying limestone, on which you turn and survey the world, amazed that in so brief a walk from the house you have suddenly risen so far above it. The farm, the neighboring farms, lie spread out like a map, the village spires three miles away prick the plain; to south and east, in the far distance, lie the long, wave-crest horizontals of the opposite hills, while to the north more abrupt individualized mountains are huddled picturesquely—Tom Ball, West Stockbridge, Monument (with its white cliffs), and others more remote. Only to the west is there no look-off. Here the pasture ends against a wall of woods, and the mountain-side, growing ever steeper, climbs on up another thousand feet.

It is this wooded wall directly at the head of my pasture that I am attacking with my ax, and shall be for some winters to come. Above are acres upon

acres of larger timber—white oaks, maples, chestnut, poplars, ash, hemlocks, pines, great canoe-birches. But I do not need to go so far. Here, directly at the pasture-top, are twenty acres or more of gray birch, in a dense, exclusive stand, making as individual and fairy a little forest as ever you saw.



They cut easily, and though they burn easily, too, yet there are so many of them, and they grow so near and renew themselves from the stumps so quickly, that it would not pay to go higher for harder wood. The tops, moreover, are useful for wattle fences, and make the best pea-brush to be had. They grow where only a generation ago was

a sweeping field of rye, and in those brief thirty years they have reached an average height of about thirty to thirty-five feet and the largest trees a diameter of eight inches. In most places, however, they are smaller, because a second, even a third and the beginnings of a fourth crop have been grown, springing from the old stubs and thus forming clumps, as many, often, as six healthy trees standing like a stiff bouquet. Though they are called gray birches, to distinguish them from the large white birch (the paper, or canoe, birch), they are actually snowy white themselves, with black, triangular markings under the spring of each branch, and as you enter their deep shadow, especially in spring when the foliage is a vivid, virginal green, and as you tread on the yielding carpet beneath of prince's pine, the effect is of a shimmering, delicate wood in fairyland. In winter their twiggery is a soft lavender, and lays a belt of rich color along the snowy mountain-side.

Few people know how to use an ax, and of those who do, not all have the endurance to keep the pace steadily all day long. I can swing a cleek or a mid-iron with tolerable accuracy—that is, I generally hit the ball. But I am by no means so certain of hitting where I wish to with my ax-blade. To take a birch off neatly, with the minimum of stump, it is necessary to make a deep downward cut on the side toward which you wish it to fall, and then a horizontal cut at the base of this incision, to remove the big chip. If your ax is sharp and your blow powerful, one good downward cut on the rear side, if it is struck at the right point, will now cause the

tree to topple over, the end of the pole seemingly in the shape of a flat wedge. But to fell a tree over four inches in diameter with three blows requires both strength and accuracy, while to fell a small tree of two or three inches without having your ax cut clean through on the second or third blow and chipping its edge on a stone requires both accuracy and judgment. All I can say about myself is that my game is improving. I am still a long way from par, but I am no longer in the duffer class; I have the endurance, and when I keep my mind on the job, which means when I keep my eye on the spot I hope to hit, I can get a tree down with something like the minimum number of strokes. But when I let my mind wander I take ten strokes on a six-inch trunk, where I should need but five, and the stub looks as if it had been chewed rather than chopped.

And it is so easy to let your mind wander from the job, even in spite of the glorious sensation of heaving up the ax and then sending its gleaming head downward, the weight pulling at your shoulders as it falls, the acceleration of pace as the blade is about to bite the wood accomplished by a stiffening of the wrists and forearms. My mind wanders, first, because under the cover of the birches are scores and scores of little pines, ranging in size from seedlings six inches high to trees of ten feet, at which height their tops, deprived of sun and air, begin to die, and in a year or two the whole tree goes, if the birches are not removed around it. Getting out my season's wood-supply from a quarter-acre of the birches means uncovering a quarter-

acre of potential pine forest, which is in itself sufficiently exciting. As I trim out the network of lower dead birch twigs, or cut down a half-dozen clumps of the trees, almost invariably I am rewarded by the discovery of a pine, sometimes actually growing in the very midst of a birch cluster, its seed having lodged and germinated in the mold of the old stump. Then great care has to be taken in removing the birches around it. Sometimes it is a hemlock I come upon, and occasionally a cedar. But, save for canoe-birches scattered here and there among the gray (occasionally a tree will be so crossed that it is almost impossible to say which variety it belongs to), there are almost no hardwoods in the stand. The shade is too dense for the seeds to germinate. The predominant succession is white pine, and for every blow of my ax and every crash of a birch to the ground I have the sensation that I am, in effect, planting a pine-tree to take its place.

I dream, as I chop, of the forest to be.

Then, as I chop, there are noises which must be attended to. Have you ever sat in a canoe, on still water under a bridge, as a team drove by overhead, and heard the fine, delicate tinkle of the dust, shaken down between the planks, as it hit the water? When my first blow hits a birch-tree it is followed by the same delicate tinkle, the tinkle of a myriad little dry seed-pods raining down upon the snow—a curious echo to the resonant blow of an ax! There is, too, always the faint, dry harping of the wind in the twiggy, perhaps the wiry *cheep* of a chickadee from the depths of the woods, or his cheerful *dee-dee*, sometimes the scolding caw of a crow, again the

jingle of sleigh-bells down on the road a quarter of a mile away. Naturally at that sound I have to straighten my back and look to see if I can distinguish who is passing.

This is generally fatal, for when I look down to the road I cannot help looking farther, across the plain to the distant hills, noting the beautiful rusty color of the tamaracks by the swamp, the rich chocolate of the shrubby cinquefoil thickets, the smoke-blue of the horizon hills. Winter, far from being a colorless season, is, in point of fact, infinitely richer in color masses than spring or summer, and far more beautifully variable from hour to hour. These smoke-blue eastern hills I am now gazing at in the morning light will change their tone a dozen times before they put on their translucent robes of amethyst at sunset, warning me to take my homeward way.

I am not alone upon the mountain. A cotton-tail lives just up the slope from where I am cutting, and sometimes I see him, always his tracks. The chickadees are quaintly curious about my occupation. The three crows which have stuck by us all winter go back and forth overhead. By three-thirty or four the big owls will begin to hoot. But my particular intimate on this job is a weasel. He lives, I think, in the tumbled-down stone wall which runs up through the birches and beside which I build my noonday fire. At any rate, I never see him except in or on this wall. He is entirely fearless, even when the dog is with me, and as full of alert curiosity as a fox or a terrier. Snow-white except for the jet-black tip to his tail and his two

jet-black, wonderfully intelligent eyes, he runs along a few feet inside the wall, then re-emerges from a hole, raises his long neck, and stares at me, his head cocked the least bit to one side. Bobbing in again so quickly you can scarcely detect his motions, he as suddenly reappears, it may be nearer still, and this time sits up on his haunches like a squirrel to observe me better. He is rather small and is probably she, but so beautiful, alert, fearless, and intelligent of aspect that it seems hard to believe it capable of the savage cruelty that is its instinctive nature. I have not dared to try to tame it with food, for fear the dog might get it, though I fancy the chances are slight. Its rapidity of motion is almost incredible.

An afternoon in the wood-lot is never so pleasant as a morning, because the ax has curiously grown heavier (as well as inexplicably duller), and the unpleasant but inevitable task has to be faced of trimming the slash from the poles cut before luncheon. This is a matter not of strength, but of patience, and it is always more pleasant to be assertive than patient. But as my clock—the creeping shadow of the mountain shoulder above me—warns that the day's task is nearing its end, I always leave till morning any poles that may yet be untrimmed, and finish the day by a few strong, farewell swings against the stoutest trees within reach. I like to finish with a final free play of every muscle and the brittle crash of a trunk down the slope. I like it because it sends me to my sheepskin coat and pipe in a warm glow, and because the fallen tree is a symbol of the meaning of my task.

The meaning of my task! How clear it is to me as I emerge from the now chilling shadow of the birch-wood edge into the paler shadow of the mountain shoulder as it falls across the pasture ledges, across the plain, and begins slowly to climb the wave-line of the eastern hills, dreaming now in



amethyst! Just at my feet, down a quarter of a mile of snow-rippled slope, at the head of its naked orchard beside the road, sits a red-brick house. Within that house are eight fireplaces. There are stoves and a furnace, besides, but they are of secondary interest. There are eight hearths to dance and glow, and it is my ax which feeds them. Buying coal, mined for you by others, is prosaic at best, and nowadays, for some of us, not always easy. But going up your mountain to your own wood-lot, and with your own arms swinging the gleaming ax that fells you twenty cords of wood on the crisp days of winter, to season against the coming of the

winter again, is the poetry as well as the health of self-sustenance. It gives you a fine, independent feeling. It makes you appreciate doubly the blessed welcome of your glowing hearths. It flavors your waiting tea with the sweetness of honest satisfaction and solid accomplishment. It takes you back—that, I think, is at the heart of the secret, if secret there be—to an earlier day when we all lived closer to the land, leaned more heavily on our own efforts, and meant by “home” something more homely, self-centered, and self-sustaining. There are spots in the Berkshires where, I regret to say, it would not be considered quite the thing to cut your own wood, but I rejoice, as I half slide down the steep pasture slope toward the red house by the road, that I no longer live in such a spot. I find the feeding of my fireplaces a splendid and heart-warming adventure.



WEEDS ABOVE THE SNOW

THERE is a foot of snow on the ground, lying almost level, for it fell quietly, and during a warm day and night, so that it was lightly crusted before the wind came up. Only on the most exposed slopes has the northwest wind, which draws strongly down our valley beneath the shaggy mountain wall, been able to ruffle the surface into tiny drifts, like the waves of a choppy sea, or like the sand of the Sahara. Skeeing rapidly over such a surface is beset with much the same perils as sailing a canoe through a chop.

My brook is now a beautiful thing, not in the least resembling any of its spring or summer aspects. If you should load a flexible brush heavily with black oil-paint, and then draw it in a wavy line across a sheet of thick, soft, clear white paper, you might approximate the appearance of my brook

from a slight distance, as it comes down through the pasture. But you could not quite capture, even with the utmost technical dexterity, the delicate undulations of its course. Ordinarily I am aware of it as a coolly gurgling little brown stream, splashing into white over rocks, lined with grasses, weeds, and monkey-flowers, but in no sense an exponent of pure line. What line it has is half lost in the grasses. But now it is pure line, a ribbon of velvety black sunk in the deeper white velvet of the snow, a line that tells of every hidden contour of the ground, and, above all, has that sheer beauty of curve which only something that flows can ever completely attain. Coming nearer to it, I find its transformed banks no less strange and lovely. Every rock around which the dark water curves, every grass hassock, is capped with snow like a tiny dome, and all the banks are overhung with snow in a delicate yet abrupt down-sweeping curve, steeper than that of a thatched roof, and almost infinitely varied as the wind above or water below has molded them. It is not until I stand directly over the brook that I see through the black water, swaying gently in the current, the familiar green of living vegetation. My brook in the snow is the skeleton of contour, the soul of pure line. It is a single, fluid master-stroke by the Master Etcher.

But, as I move about over the wide white paper of the fields and pastures to-day, I realize my entire world as an etching. My pasture climbs steeply to the forest, and the forest, with ever-increasing abruptness, climbs to the fifteen-hundred-foot ridge of the mountain shoulder which juts boldly into the



*My pasture climbs steeply to the forest with ever-increasing
abruptness*

plain and hides a sight, from this close angle, of the domed summit yet a thousand feet higher. So steep, indeed, are the upper ledges of this shaggy shoulder that they are, in places, practically precipitous, and the trees, seen from below, are outlined against a white backing, either of snow-and-ice-covered cliffs or of the upended forest floor itself.

The bulk of the forest is deciduous, a mixed stand of chestnut and hardwoods; and now the straight, forest-grown trunks are suddenly stabbed in a new distinctness against the white backing, with a myriad down strokes of the etcher's needle. Their sprayed tops, an intricate maze of hairlike lines, are colored in subdued tints of lavender, red, and brown, as if the colored ink had been delicately brushed on with a bit of feather. The scattered evergreens—pines and hemlocks—are, however, firmly etched in outline, each one distinct though half a mile away, and colored a rich dark green with a loaded brush. There is an old saying that you cannot, when too close, see the forest for the trees. Here on the great, white, upstanding paper of the mountain-side, I suddenly behold both the forest and the trees. The mountain looks even higher and steeper than when wearing its customary aspect; the forest is no less impressive in bulk; but the myriad arboreal units which compose it are suddenly revealed, each one delineated with infinite patience, in its naked skeleton of trunk and branches, patterned in ink strokes on the snow.

Letting my eyes come back from the mountain ledges to the pasture at my feet, I am aware of the

loveliest part of the whole great etching which is the visible world to-day. The weed-tops above the snow! To the farmer, at least, they are weeds. Some of them are the ghosts of our fairest flowers.



Dried now to a russet or straw-brown, in some lights almost an old-gold, or, in the case of hardhack and shrubby cinquefoil, to a deep chocolate, these dead stalks stand up rigid above the snow, and each one reveals all that it possesses of linear charm and intricacy. And how much that almost invariably is! Here, in a space of a few feet near the fence, where for some reason the cows

did not crop the pasture close last summer, the etcher's needle has fixed in beauty no less than a score of different designs, some of them as lovely as a snow crystal. Take, for example, that spray of wood asters. The stem rises above the crust, and then curves gracefully down-wind, throwing out wiry branchlets, each branchlet hung with tiny stars, each star the shell that once held a pale-blue flower.

They are no less lovely, surely, than the flowers—these stiff little straw-brown stars etched on the gleaming snow. Beside them are the brown plumes

of goldenrod, the dried flower-cups like rayed pin-heads; with what tool did the etcher make so many perfect, star-edged dots? The Queen Anne's lace has half closed its cups—cups of open ribs and diaphanous rim, which hold each its little dab of snow. Amid them all are many grasses, fairy plumes of such delicacy that the artist's needle must merely have breathed against the blackened plate. A mullein stalk by the fence is a gaudy thing, a big, grandiloquent straight line, borne down heavily upon for the sake of contrast. But beside it, and quite as tall, a milkweed is bursting open its pods like gray and ocher orchids, and a tall wild lettuce, ugliest of weeds (always excepting the burdock) in summer, is now a slender spire, flowering at its peak into a hundred feathery little rosettes. To one who loves pure line and pattern this small garden of weed-tops above the snow by the pasture fence—even the fence-posts go marching along, stroke, stroke, stroke of black across the snow, in a quaint procession—could be a source of almost endless study and delight.

But again I lift my eyes. Just across the road is a row of fine old sugar-maples which have not yet succumbed to the brutally unintelligent pruning of the State Highway Commission. Now, more than ever, I am aware how, fifteen feet from the ground, they begin to burst into a great fountain-spray of branches, each branch bursting and re-bursting on its upward spring, till the whole gracefully domed crown dissolves in a riot of twigs, and against the hard winter sky it is almost impossible to tell exactly the point at which the last buds end.

Between the shaggy gray boles of these trees I look across a meadow, toward the swamp. This meadow was neglected last summer by the mowers, and the prevailing autumn winds bent the dried grasses southeastward, so that now they form an army with straw-gold plumes, sweeping across the snow, forever in motion, yet frozen fast. Beyond them is a patch of rich chocolate, where the etcher has rubbed the ink on with a liberal thumb, and then the feathery rust of the tamaracks. You never realize what a beautiful color rust is till you see a tamarack swamp across the white fields, perhaps with the amethyst lights of sunset beginning to tinge the eastern hills. One of our ultra-modern American poets has written a poem "To a Discarded Steel Rail," in which he speaks of

A smile which men call rust.

The rust of the tamaracks is not a smile at the vanity of man's restlessness, however, but at the pleasant, sunny world and the dreaming thoughts of resurgent sap.

I went far afield to-day, through old orchards where the deer had been pawing up the snow for buried, frozen apples; through a snow-laden stand of young pines, where the aspect was of blobs of white spattered on dark green, and where, no matter how low I stooped, the brushed branches pelted me with cold powder; past fox-tracks and rabbit-tracks and the bed of a partridge in the uncovered leaves—I heard him go whirring off through the snowy silences before I reached the spot; into clearings where the weed-top etchings were renewed, and

invisible water tinkled somewhere under ice; then into deep woods again, and up the mountain ravines.



*A young moon holding in its crescent the vague wraith
of the full sphere*

It was late when, at last, I pushed back out of the forest fringe and set my skee-points valleyward,

but leaning first on my poles to look down on the ghostly radiant, frozen world. A young moon swam over the mountain shoulder, holding in its crescent the vague wraith of the full sphere, like a bubble in a golden saucer. The light of this moon bathed all the world in its pale, clear glow. The world was not an etching any more. All but the nearest weed-tops had disappeared. But each tree and shrub sent out a pale, firm shadow over the faintly sparkling snow; the world was a silver-point engraving of supreme delicacy, upon a frosted paper; and not the trees, but their shadows were most alive. The air was a frozen crystal which no sound snapped, except, far off in the valley, a dull boom from expanding ice in the pond, and the disembodied hoot of an owl up the ravine behind me. Yet there was another sound. Listening intently, I could hear it behind, below, on both sides—the sound of running water, like a wind just waking, or like the world's soft breathing as it lay wrapped in frozen dream.

Far below gleamed a single reddish-gold window-square, oddly unrelated to the lonely scene. Yet thither I must go. My skees squeaked on the snow as I slid them forward and caught the first rush of icy air in my lungs.

The young moon has dropped now behind the mountain shoulder, and Orion, who nightly springs from his couch beyond the eastern hills, is up amid the game flocks of the stars. My window-square glows out into darkness lit with a dim white radiance from the snow. The weed-top etchings are only in my memory.

I know moods—as who does not?—when it would

be most natural for me to allow them to remain there, neither reasoned about nor written about, merely a deepening of the background of one's sensuous enjoyment of "this goodly frame, the earth." Yet to-night I am curiously tempted to pin them up before me for further contemplation, endeavoring vaguely, blindly, to work from them to human analogies.

If, aided by the soft, obliterating mantle of the snow, we walk abroad and find common things—a brook, a dead weed-top—suddenly revealed in a new and simpler aspect, so that some unguessed trait of enduring loveliness it all along possessed is set alone, in a high light, for contemplation, and from its littleness one's soul moves on to grasp such large conceptions as the beauty of the curve or the profound strength required for accurate delicacy, why can there not be some snow mantle in our relations with our fellows, to work a magical transformation and reveal similar unexpected significances? Henry Adams is but the last large mind to affirm that a man can compass at most but two or three friends. Is that because it is only upon friendship—and love—that the snow mantle of silence falls, and under the spell of this silence is born a more perfect understanding than can ever come of words; under it, as we think each our own secret and dynamic thoughts, we seem mystically aware of what it is in his, or her, soul which is lovely and eternal? All of us know this snow mantle of silence that drops upon the converse of friends, the communion of lovers, the wife and husband sitting by their evening fire. And all of us know that we can look for its soft

revealing in our relations with but a pitiful few of our fellows. For the rest, we guess at the verities in their souls, as we might guess at the exquisite curve of the brook when it is half lost in sedgy verdure, or at the delicate, spired loveliness of the lettuce stalk when it is a rank, ungainly green shoot by the roadside, with ugly, insignificant flowers.

It is not alone in my own small circle that I yearn for some gentle obliteration alike of outer ugliness and rank summer richness, and a revelation of those still, cold winter lines of the human spirit that tell so surely whether its essential form is fair. After all, in our immediate circle, we arrive in time at approximate, if unsatisfactory, estimates. But how is it in the wider relations of men? As the snow buries, so we talked of the war burning away, the unessentials, and we did indeed seem to see the stark skeletons of men's ideals, fine and rigid and at a white heat. But in the crackling haze of a conflagration the vision is often deluded. It is over the cool calmness of snow that outlines are best estimated—snow which is white like peace.

The white benediction of peace! When that descends on the world is not then the time to look for those spiritual perfections, those inner, essential beauties of soul in our fellows, which can give us so deep a moment of contemplation, in the belief that in essence the world and the world's people are drawn clean and fine and delicate, the delicacy of infinite strength under perfect control? Ah, if we could but find it so! If we could but admit to our deeper beliefs the belief that war is a purge, or peace a soft-fallen obliteration of rank excesses and things

dead and ugly, a revelation of man's structural spirituality, like the weed-tops above the snow! But we see war intoxicate as well as purge, and we see peace reveal gross selfishnesses, ugly, rank green



burdocks of greed and covetousness. Nowhere does the world of man lie cool beneath a white snow blanket, each lifted soul a bitten, lacy line of beauty. We seem to see plumed souls that wave and beckon, strong, solid, spired souls, souls delicate as tops of grass; but ever such a mass and maze of other souls, lineless, formless, or of evil twist, souls like dead leaves that rot, or weeds that crowd the flowers out,

hidden by no kindly snow, stripped by no winter frosts—the welter of the world of men! How strip them all down to their naked stalks? How show them all against some background white as snow, that what is beautiful may be so clearly seen that no man can forget, and what is ugly, that all men shall turn away and choose the plumes and aster stars?

My etched world has led me far afield, and brought me, groping, back again, unanswered and unsatisfied. Upon their bright Ægean hills, ages long ago, the shepherds watched Orion climb, and gave to him, no doubt, his name. War came and peace came, religions rose and perished, philosophers were crowned—and poisoned, man groped for light within himself and freedom in his universe, poets sang and saints perished. Still I look out and see Orion hunting the game flocks of the stars. Now he has forded the Milky Way. The dog-star is in golden cry beneath his heels. How still and cold and beautiful is the night! How remote those star-glints from our troubled earth! How keener far than man's must be the eye that sees the end and meaning of it all; how greater far the hand that etches on some spirit snow the weed-tops of our human souls and makes them all fair at last!

THE END



This Book is Due
APR 8 1925

MAY 9 1925

ANNEX

lds.
1922

3 1 8 1922

7 5 1922

1 1 0 1922

2 8 1925

AN 2
2 9 1929

1 1 1934

MAY 8 1936

2 2 1936

